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Monthly Encyclopedia

and Medical Bulletin

(CONSOLIDATED)

EDITED BY

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EDITORIAL ROOMS—243 Walnut Street, Philadelphia, Penna.

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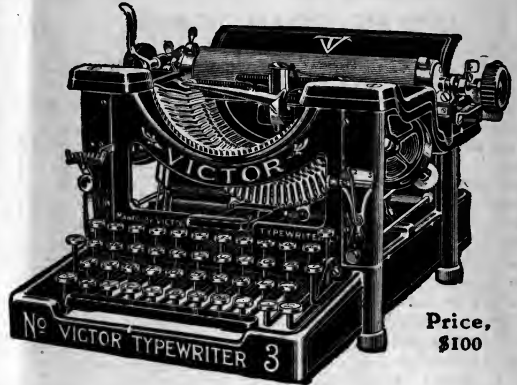
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℞ Olei ricini, ℥j.

Syr. rhei, ℥iv.

Spt. frumenti, ℥ss.

Olei menthæ piperitæ, ℥ij.

M. Sig.: To be taken at one dose. (Med. Sentinel.)

BOILS.

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EYEBALL-HEART REFLEX.

Loeper and Mougéot reported research last year confirming the instructive import of Aschner's reflex: the slowing of the heart-beat when pressure is applied to the eyeballs. In two or three seconds at most the heart slows up by about 8 beats to the minute, but the former rate returns as soon as the pressure is released. In tabes this reflex seems to be abolished. In some cases the absence of the oculocardiac reflex, as they call it, was the first sign to attract attention to the tabes. The apparently paradoxical tachycardia with abnormally high blood-pressure does not affect this reflex, but this tachycardia warns of impending breakdown of the left heart and calls for digitalis unless it yields to other measures. They explain the mechanism of this tachycardia, saying that the eyeball-heart reflex first threw light on it. They published several communications on the reflex in the *Progrès médical*, 1913, xli, 211, 663, and 675. With a gastric neurosis this reflex is an indication whether the pneumogastric or the vagus is predominantly involved, and this may prove a guide to treatment. In one of the cases reported the patient had an ulcer on the lesser curvature, and the pulse slowed up by 14 beats on pressure of the eyeballs. Three months after resection of the stomach the pressure caused the pulse to drop from 88 to 62, a loss of 26 beats. The pressure on the eyeballs never seemed to do any harm. It exaggerates bradycardia when it is of nervous origin, and may exaggerate arrhythmia. With rudimentary exophthalmic goiter and very emotional subjects, with a tendency to "hot flashes" and profuse sweating, pressure on the eyeballs is liable to accelerate the pulse. (Jour. Amer. Med. Assoc.)



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Acidi benzoici, āā gr. x.
Infusi buchu, f̄ij.

M. Sig.: Three times a day. (Tyson, in Merck's Archives.)

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Mix the soap with 2 fluidounces of water; dissolve the camphor in the oil, gradually add the latter solution to the former, triturating until the mixture becomes a creamy emulsion, and lastly add enough distilled water to make 16 fluidounces. (Phys. Drug News.)

BRAHMAN MEDICINE.

The center of medical science lay in the holy city of Benares on the Ganges—also the seat of Brahmanic learning. The following view was current on the necessary traits of a scholar suited for the study of medicine and those of a fit teacher: "The scholar must have a quick tongue, small lips, regular teeth, a noble aspect, well-formed nose and ears, a lively spirit and a graceful bearing; he must be capable of withstanding pain and fatigue." "The teacher must read aloud from the holy book, step by step, verse by verse, distinctly, but without effort, without hesitation, neither too quickly nor too slowly, not speaking through the nose, showing no trace of impatience," etc. At the close of the initiation ceremony the novice was warned to be chaste and abstemious, to wear a beard, to

speak the truth, to eat no meat, to render to his teacher obedience in all things; as a physician he was to treat gratuitously Brahmans, teachers, the poor, friends and neighbors, the pious, orphans, etc. (Neuburger, in History of Medicine; Jour. Amer. Med. Assoc.)

LICHEN PLANUS.

R. L. Sutton (Jour. Amer. Med. Assoc.) recommends the following as a cooling, antipruritic ointment, which is at the same time more or less curative:—

- R Phenolis, $\text{m}\text{v-x}$.
- Mentholis, gr. v-x.
- Ung. hydrargyri ammoniati,
- Ung. zinci, $\text{aa}\ 3\text{ij}$.
- Adipis lanæ anhydrosi, 3iv .
- Liquoris calcis, q. s. ad sat.

Fiat ung. Sig.: Apply freely twice for three times daily.

When the itching is very troublesome, the following application is of value:—

- R Mentholis, 3iss .
- Thymolis, 3ij .
- Chlorali hydrati, 3j .
- Chloroformi,
- Ol. eucalypti, $\text{aa}\ 3\text{ij}$.
- Ol. gaultheriæ, 3iv .
- Alcoholis, 3viiij .

M. Sig.: Shake, and apply twice or three times daily.

This preparation is powerfully rubefacient, but it is of value in many intensely pruritic conditions. (Prescriber.)

GASTRALGIA.

- R Tr. opii camphorata, 15.
- Tr. kolæ,
- Tr. vanillæ, $\text{aa}\ 9.25$.
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Unlike other works on this subject, which give detailed descriptions of the various surgical operations, the authors here merely indicate the lines of operative procedure, leaving the surgeon to determine whose particular technique he prefers to employ to perform a certain operation, thus utilizing much valuable space usually devoted to description for pathological, symptomatological and diagnostic data relating to surgical conditions and diseases of the various organs and regions and their treatment.

The adaptability of this work is not confined to the surgeon alone, but is suitable as well for the general practitioner, who usually sees the case in its early stages, and who is, therefore, required to possess a comprehensive knowledge of the subject, whether he does any operating himself or not.

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NEWS AND THERAPEUTIC HINTS.

NEURALGIA.

The addition of eucaïne to alcohol injections is advocated by H. Campbell in order to lessen the pain caused by the injection:—

- ℞ Eucaïne, gr. ij (0.13 Gm.).
Alcohol, ʒvj (21.3 c.c.).
Distilled water, q. s. ad ʒj (28.4 c.c.).
M. et ft. inject. (Practitioner.)

NEURASTHENIA.

- ℞ Acidi phosphorici diluti, fʒij.
Fl. ext. cocæ, fʒvj.
Tinct. nucis vomicæ, fʒij.
Syr. zingiberis, fʒiss.
Aquæ menthæ piperitæ, q. s. ad fʒvj.
M. Sig.: Tablespoonful after meals in water.
(Merck's Archives.)

BUTTERMILK FOR ERYSIPELAS.

Arnold recommends buttermilk highly as an application for erysipelas. Whatever the stage of the disease he says the spread of the infection is immediately checked, the pain disap-

pears, and the whole morbid process rapidly aborts when it is used locally. (So. Clinic.)

IODINE IN TUBERCULOUS PERITONITIS.

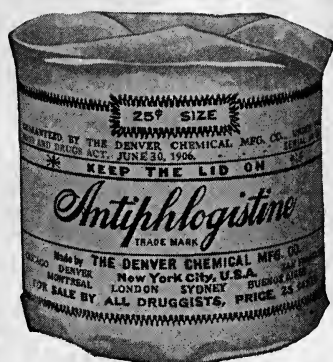
Pontoizeau is stated to have made a trial of the method originally recommended by Grosso in the treatment of tuberculous peritonitis, viz., the subcutaneous injection on alternate days of 0.5 to 1 dram (1 to 2 c.c.) of the following solution:—

- ℞ Iodine,
Potassium iodide, of each, ʒv (20 Gm.).
Normal saline solution, ʒviss (200 Gm.).
Mix and make into a solution.

Satisfactory results, consisting of relief from the local symptoms and improvement in the general condition, were obtained. At times the injections proved to be painful. Where this is the case an ointment of iodine may be used instead.

In cases that have been subjected to celiotomy the iodine treatment is a most effective adjuvant, accelerating repair of the peritoneum and preventing complications. (Lyon médical.)

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NEWS AND THERAPEUTIC HINTS.

OXALURIA.

The following has been found useful where there is anemia and nervous atony:—

℞ Acidi hydrochlorici diluti, ʒss.

Tinct. ferri chloridi, ʒij.

Syrupi, ʒiiss.

Aquæ, ʒviiij.

M. Sig.: Tablespoonful three times a day through a glass tube. (Critic and Guide.)

GASTRIC ULCER.

A 1 per cent. solution of sodium bicarbonate is administered not only at the height of acidity, but when the patient has pain or pyrosis. The solution is given regularly one to one and one-half hours after a light meal, and two to three hours after a heavy meal; besides that, at any time of the day or night when the patient is uncomfortable.

Mode of administration:—

℞ Sodii bicarbonatis purissimi, 8-10.

Sodii phosphatis sicci, 4-5.

Sodii sulphatis sicci, 2-3.

One powder in a quart of water taken one-half to one glass when necessary.

Or,

℞ Sodii bicarbonatis purissimi, 1.

Sodii phosphatis sicci, 0.4.

Sodii sulphatis sicci, 0.2.

One powder in one-half glass warm water whenever necessary. (Gross and Held, in Archives of Intern. Med.)

UREMIC CONVULSIONS.

℞ Pilocarpinæ hydrochloridi, gr. j.

Tinct. veratri, ʒxxx.

Syr. tolutani, fʒiv.

Aquæ anisi, q. s. ad fʒj.

M. Sig.: Teaspoonful in water, repeated in two or three hours if necessary. (So. Clinic.)

SENILE PRURITUS.

℞ Acidi sulphurici diluti, ʒlxxv.

Syrupi rubi idæi, fʒj.

Aquæ destillatæ, q. s. ad fʒvj.

M. Sig.: One tablespoonful every two hours. (Merck's Archives.)

NEWS AND THERAPEUTIC HINTS.

EPIDIDYMITIS.

℞ Ichthyolis, f3vj.
 Ung. hydrargyri,
 Ung. belladonnæ, āā 3iv.
 Cerati plumbi subacetatis, q. s. ad 3ij.

M. Sig.: Apply to scrotum freely twice or thrice daily, and support with large suspensory bandage. (Med. Standard.)

ITCHING IN JAUNDICE.

L. Aldor recommends the following lotion for itching in patients with jaundice:—

℞ Resorcinolis,
 Mentholis, āā gr. xv.
 Hydrargyri chloridi corrosivi, gr. iij.
 Glycerini, m℥xxv.
 Aquæ cologniensis, 3iij.
 Alcoholis, 3xv.

M. et ft. solutio.

Sig.: Use as a wash. (Critic and Guide.)

SULPHUR OINTMENT IN DANDRUFF.

Brayton recommends (Ind. Med. Jour.) an ointment of 1 ounce of cold cream, 1 dram of precipitated sulphur, and 30 grains of salicylic acid as an excellent treatment for dandruff, and also for seborrheic dermatitis of the scalp and face. White precipitate ointment may be used for the limbs and trunk, and sulphur ointment for the scalp. (The Urologic and Cutaneous Review.)

BURNS.

The writer praises the Rovsing dressing for extensive burns. The injured area, and the neighboring skin, are first thoroughly cleansed; an anesthetic may be required. The entire wound is then covered with sterile rubber tissue, containing many small slits; over this, a thick sheet of 1 per cent. silver nitrate gauze, then cotton and a bandage. The results are nearly uniformly good. (Wulff, in Münch. med. Woch.)

PLANTAR HYPERIDROSIS.

Sabatié (Paris Médical) recommends the following treatment for perspiration of the feet:—

1. Bathe the feet daily, using hot or cold water according to circumstances, with the addition of a tablespoonful of formaldehyde solution.



2. Wash the feet twice daily with the following lotion:—

℞ Tinct. benzoini, 3iiss (10 Gm.).
 Liq. formaldehydi (40 per cent.), 3iv (15 Gm.).
 Aquæ, q. s. ad 3xxv (1 liter).

3. Change the socks daily, and wear the same boots only once in five or six days.

4. Place each morning in the socks the following powder:—

℞ Acidi salicylici, gr. xv (1 Gm.).
 Pulv. iridis, 3iiss (10 Gm.).
 Pulv. cretæ compositi, 3x (40 Gm.).
 (Prescriber.)

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NEWS AND THERAPEUTIC HINTS.

ICHTHYOSIS.

℞ Resorcinolis, gr. xv.
Aqua, ℥xxx.
Lani, 3v.
Petrolati, 3iij.
Olei lavandulæ, gtt. vj.

M. Sig.: Rub in twice a day. (Merck's
Archives.)

LUMBAGO.

℞ Salicini,
Potassii bicarbonatis, āā gr. xv.
Caffeinæ citratæ, gr. vj.
Ft. pulv. tales no. xij.
Sig.: One powder four times a day. (Med.
Sentinel.)

THREADWORMS.

The following injection is said to be efficient:—

℞ Acidi salicylici,
Sodii boratis, āā 3ss.
Aqua, Oj.

M. Sig.: Warm and inject into the bowel.
For children reduce all ingredients by one-half.
(Merck's Archives.)

NERVOUS HEADACHE.

In nervous headaches try wetting top of the
head frequently with the following mixture:—

℞ Alcohol, 3j.
Spirit of lavender,
Spirit of camphor, of each, 3ss.
(Med. World.)

SNUFF FOR ACUTE RHINITIS.

Lieven prescribes the following powder to be
used as a snuff for the relief of acute rhinitis:—

℞ Magnesium carbonate,
Sodium bicarbonate, of each, 2 Gm.
Menthol, 0.05 Gm.
Phenolphthalein tetraiodide,
Milk-sugar, of each, 2.5 Gm.

(Medical Record.)

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NEWS AND THERAPEUTIC HINTS.

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PRESCRIPTION FOR GASTRIC HYPERACIDITY.

W. Wolff recommends the following combination:—

- R Ext. of belladonna, 0.2 Gm.
- Bismuth subcarbonate,
- Calcined magnesia, of each, 7.5 Gm.
- Sodium citrate, 15 Gm.

Of this powder the tip of a knife bladeful is to be taken every three hours, between meals. ("Taschenbuch der Magen und Darmkrankheiten," Med. Rec.)

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- M. Ft. massa et div. in trochisci no. xxx.
- R Codeinæ, gr. iij.
Ext. gambir, gr. xx.
Ext. glycyrrhizæ, ʒiss.
- M. Ft. massa et div. in trochisci no. xx.
- R Cocainæ hydrochloridi, gr. ʒss.
Antipyrinæ, gr. ij.
Sacchari lactis et aquæ dest., q. s.
- M. Ft. tales trochisci no. xx.
- R Ammonii chloridi, gr. xx.
Pulv. ipecacuanhæ, gr. j.
Pulv. capsici, gr. ¼.
Ext. glycyrrhizæ, ʒij.
- M. Ft. massa et div. in trochisci no. xx.

Of any of the foregoing tablets one may be dissolved in the mouth every two hours. The first formula is indicated in moderate pharyngeal inflammations, the second and third when pain

and irritating cough are present, and the fourth when the pharynx is covered with thick and tenacious secretion. (Wilcox, in Merck's Archives.)

RAIN-BEARING WINDS AND THE PREVALENCE OF TUBERCULOSIS.

Gordon discusses this subject, and, as a result of his investigations, concludes that populations exposed to strong, prevalent, rain-bearing winds tend to suffer considerably more from pulmonary tuberculosis than populations sheltered from them. He thinks it probable that similar exposure affects appreciably the course of existing cases of phthisis, and increases the prevalence of bovine tuberculosis. He urges the importance of taking into account the wind-exposure of any place recommended as a place of residence to a cured case of pulmonary tuberculosis, and points out the necessity in investigating any influence bearing on the prevalence of pulmonary tuberculosis of first recognizing and eliminating the influence of strong, prevalent, rain-bearing winds. (Practitioner.)

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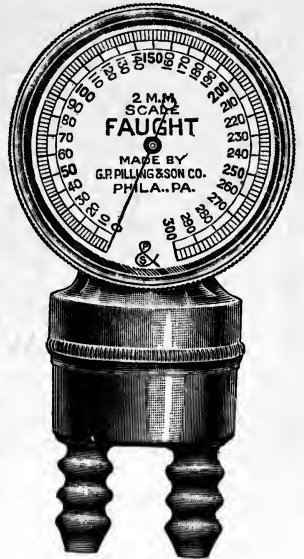
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NEWS AND THERAPEUTIC HINTS.

BOILS.

The use of dilute sulphuric acid in the treatment of boils, carbuncles, and staphylococcic infections generally has been reported by several observers. The acid is given in doses of 20 or 30 minims every four hours, well diluted, and remarkable results have been recorded. (Medical Summary.)

EARACHE.

J. F. Crump, in the Journal of the Arkansas Medical Society, advises, in the commoner forms of earache for children, the instillation every three hours of 5 drops of the following anodyne combination:—

℞ Atropinæ sulphatis, gr. $\frac{1}{4}$ (0.015 Gm.).
Cocainæ hydrochloridi,
Phenolis, āā gr. v (0.3 Gm.).
Epinephrin (1:1000 sol.), ℥j (4 Gm.).
Glycerini, q. s. ad f̄iv (16 c.c.).

M. et ft. solutio.

This will relieve the pain in almost every case. If, however, it fails, and a purulent condition supervenes, incision of the drum membrane and drainage are indicated. (N. Y. Med. Jour.)

NEW TREATMENT FOR RINGWORM.

Foley (Lancet) has treated a number of cases of ringworm, mostly contracted from cattle, by the following method, with perfect success in every case: The part is first washed with a strong solution of sodium bicarbonate, then swabbed with lint moistened with spirit of ether, to remove grease. It is then dried, painted with tincture of iodine, and at once sprayed with ethyl chloride. The spray is continued until the integument becomes china-white, and then stopped. In from twenty-four to forty-eight hours the patch is quiescent. After that, little spots should be looked for and treated; these will disappear in a few days. In ringworm of the scalp three or four applications are usually required; in the face or other part where the skin is smooth one application should be sufficient. In an editorial note in the same issue it is remarked that the ringworm caught from cattle is due to *Megalosporon ectothrix*, which is most easily killed. The treatment may prove suitable in other varieties, but the evidence as to this is at present insufficient. (Charlotte Med. Jour.)

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is that one which, while possessing the entire therapeutic value of opium, is yet free from its disadvantages. This is descriptive of

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NEWS AND THERAPEUTIC HINTS.

RACE MIXTURES.

Dr. Eliot, of Harvard, spoke recently at the changes immigration has caused. In his youth Dr. Eliot's community was homogeneous. His father's servants, the men who worked his farm, the mechanics, all the servants at Harvard, were Americans, descended from Pilgrim stock. But those Puritans, let us remember, were themselves not at all pure ethnically. There has probably never been since Homer, nor for many thousands of years before him, a pure race of men. The English who supplanted the aboriginal Indians were by no means a pure type; nor were the Dutch, nor the French, nor the Spaniards. Take the Frenchman of today. In the North are the descendants of the Belgæ, the Walloons, and other Kymri; in the East those of Germans and Burgundians; in the West Normans; in the center Celts, who in the epoch when their name arose consisted of foreigners of various origins and of the aborigines; in the South ancient Aquitanians and Basques. Professor Boas, of Columbia, has found that where the ratio of

race-intermingling is as 1 to 9 there will be, among the more numerous population, only 18 per thousand in the fourth generation of pure blood, and where two types intermarry with equal freedom less than 1 person in 10 thousand will be of pure descent—that is, within a century the process of intermixture should be complete. (Harper's Weekly.)

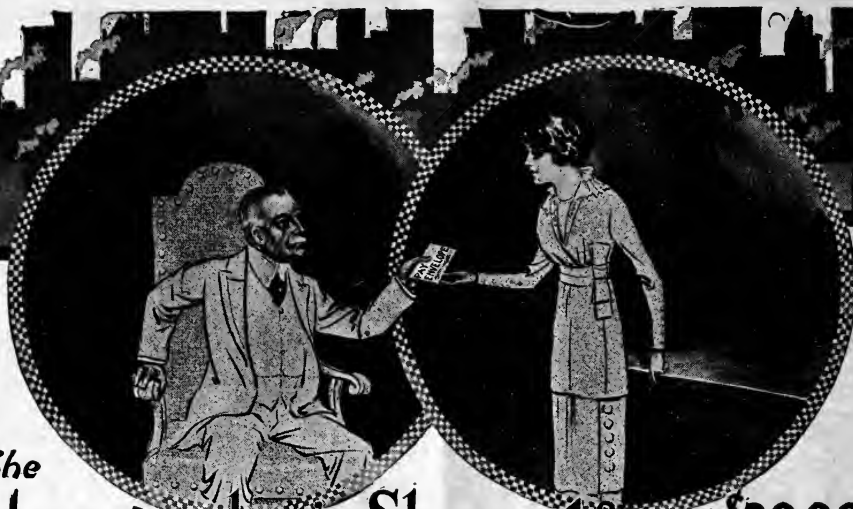
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℞ Veronal,
Antipyrinæ, āā gr. xv.
Syrupi cinnamomi, f̄ss.
Aquæ destillatæ, f̄iiiiss.

Sig.: One teaspoonful in the morning, afternoon, and one hour before bedtime. (Munz, in Die Heilkunde.)

ACID SATURATION IN FEBRILE DISORDERS.

Pallais is stated to have found large doses of citric or tartaric acid of great value in the treatment of various infections. Among the conditions referred to is malaria, in all forms of which these organic acids proved useful. In some cases that had resisted quinine, in fact, the acids were found valuable substitutes for it. A combination of the two measures is advantageous, the quinine being administered hypodermically and the acid (citric usually) by mouth.

In the atypical cases of typhoid fever frequently seen in the tropics, sometimes resembling malaria of a continuous type, the results of the organic acid treatment proved so striking and prompt that Pallais uses it to the exclusion of all other measures. It not only overcomes serious cases, but also mitigates the course of the disease where given early, the tongue rapidly clearing, the tympanites, abdominal pain, constipation, and fetor of the stools passing off, the fever receding, and the albuminuria disappearing in a few days.

In blackwater fever the hematuria or hemoglobinuria is regularly arrested in a short time by the same treatment. In yellow fever massive doses of citric acid were found to cause a surprisingly rapid and marked improvement in the symptoms, hemorrhage, epigastric pain, jaundice, albuminuria, etc., quickly disappearing. Patients considered moribund or hopeless made a good recovery under the treatment, whereas, when used from the beginning of the attack, the acid was found to mitigate all the manifestations in a notable degree.

Finally, in cases of puerperal fever, equally good results were obtained. The author considers that the organic acids act by diminishing the alkalinity of the blood, thereby rendering the latter a less favorable medium for the growth of the invading organisms.

The dose of the acids administered by the author is from 300 to 450 grains (20 to 30 Gm.) in the twenty-four hours, given in 10 ounces (300

c.c.) of water. In severe cases he gives as much as 600 grains (40 Gm.). For children of 10 years, half-doses are given; for those of 5 years, quarter-doses; nurslings stand 30 to 75 grains (2 to 5 Gm.) very well. When giving citric acid in combination with quinine, Pallais uses the following formula:—

℞ Quininæ sulphatis, gr. xv (1 Gm.).
Acidi citrici, f̄iiij-iv (12-15 c.c.).
Aquæ, f̄iiv (120 c.c.).

M. Sig.: Two tablespoonfuls every two hours.

The citric acid treatment, using massive doses, proved entirely harmless, the only untoward effect being a mild degree of laryngitis, which disappeared as soon as the treatment was stopped. (American Journal of Tropical Diseases and Preventive Medicine, March, 1914).

BRONCHITIS IN ASTHMATIC CASES.

Babcock, in the Journal of the Michigan State Medical Society, emphasizes the efficiency of apomorphine hydrochloride in doses of ¼ to ½ grain (0.015 to 0.03 Gm.), by mouth, in syrup of hydrochloric acid as an expectorant in cases of asthma with chronic bronchial catarrh. These and even larger doses of apomorphine can be tolerated by mouth without producing nausea. A combination which is likewise often useful is the following:—

℞ Tincturæ lobeliæ, f̄v (20 c.c.).
Fluidextracti grindeliæ, f̄j (30 c.c.).
Syrupi acidi hydriodici, q. s. ad f̄iiv (130 c.c.).

M. Sig.: One teaspoonful in water three or four times a day. (N. Y. Med. Jour.)

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Original Articles and Summaries of Selected Articles

GENITAL FUNCTIONS OF THE DUCTLESS GLANDS IN THE FEMALE.*

By W. BLAIR BELL, B.S., M.D., M.R.C.S., L.R.C.P.,
LONDON, ENG.

THE internal secretion of the ovary has never been isolated. The only evidence that there is an internal secretion rests upon the results of extirpation and destruction experiments, and to a less degree on clinical observations. The resulting atrophy of the uterus is taken to indicate the loss of some secretion which normally activates this organ. Fränkel showed that destruction of the lutein cells led to abortion in pregnant rabbits. It has been supposed that the corpus luteum provides a secretion which assists in maintaining the position of the imbedded ovum intact. Experiments on animals seem to support this view; but cases in the human subject are on record in which both ovaries have been removed during the first few weeks of pregnancy for such discrete tumors as fibromata without interrupting the course of gestation. Herein lies one of the great difficulties in the subject; different orders of mammals have organs of internal secretion which are structurally and even functionally different, although perhaps in degree only. Individuals in the same species may vary, both in animals and in man. It may be that the secretion of the corpus luteum in women is much less important for the normal implantation of the ovum than it is in rabbits.

The interstitial cells of the ovary, too, are believed to possess a special internal secretion. Limon first compared the ovaries of many species of mammals, and found an enormous difference in the preponderance of interstitial cells in the different ovaries.

* Summary of article in the *Lancet*, March 22 and April 5, 1913.

Effects of Oöphorectomy on the Genital Functions.—Hick and the author have pointed out that the effect of oöphorectomy on the non-pregnant uterus is to produce atrophy of the muscular coats. Normal muscular contractions are abolished and atrophy supervenes, especially in the circular muscular coat. This has been confirmed and accepted by Marshall and others. The total ovarian secretion, when injected intravenously, causes contractions in the estrous uterus of the rabbit, but inhibits the contractions of the pregnant uterus.

Effects of Oöphorectomy on General Metabolism.—The author removed the ovaries of 6 cats, which were kept for periods ranging from 139 to 251 days. The urine was collected and fully examined at frequent intervals, both before and after operation. The specific gravity of the urine was higher after operation than before in half the cases. The calcium excretion was diminished by one-half. The chlorides were slightly diminished. The phosphorus excretion was much increased, as well as the total nitrogen and urea percentages. The ammonia was slightly increased. The author does not think one can look upon the changes recorded in regard to the nitrogen as of much importance. The increased phosphorus excretion was somewhat curious in view of the definite decrease in the excretion of calcium. The author holds the view that the ovaries take an active part in promoting the excretion of calcium, especially in connection with menstruation. These experiments showed that removal of the ovaries lessens the urinary excretion of calcium by one-half.

Effects of Oöphorectomy on the Thyroid.—The thyroid of the normal non-estrous and non-pregnant female rabbit is not a very active organ in so far as the production of colloid is concerned. But after removal of the ovaries there is great distention of the vesicles, which are filled with colloid. Further, the colloid is basophile in character and stains blue with hematoxylin, whereas the normal thyroid colloid is acidophile and stains with eosin. It can safely be asserted that there is a considerable increase in functional activity of the thyroid of rodents after oöphorectomy.

The normal colloidal secretion of the anterior lobe and pars intermedia of the pituitary is basophile, but under conditions of increased activity it may be eosinophile. Further, like the thyroid, in a condition of greater hypophysial activity no colloid is formed, but the secretion is abstracted directly from the eosinophile cells. In conditions of the greatest activity of all, the secretion is directly abstracted by the blood or lymph from faintly staining basophile cells—so-called chromophobe cells. There is, in fact, a cycle of events to be demonstrated in the hypophysis according to the needs of the moment.

It is probable, then, that the basophile colloid found in the rabbit's thyroid after oöphorectomy represents a storage secretion, which is formed to meet the altered conditions of metabolism. The relatively inactive thyroid which is normally found in rodents (non-pregnant) is probably related to the very marked development of the interstitial cells in the ovaries of these animals. As a consequence, a marked reaction is produced in the thyroid of

rodents by oöphorectomy, and not to the same degree in other mammals, such as the carnivora.

Effects of Oöphorectomy on the Thymus.—Calzolari first showed that castration produced hypertrophy of the thymus. His experiments were carried out on rabbits. No work has been done in regard to women, but eunuchs have been found to possess thymus glands which have not undergone involution. It has also been noted by Marrasini and by Gellin that castration after genital activity has been established gives rise to enlargement of the thymus.

In the author's experiments on cats the thymus was found much larger after oöphorectomy than in the normal adult animal.

Effects of Oöphorectomy on the Pineal Gland.—While Biach and Hülles, giving the results they obtained by castration of male and female kittens a few weeks old, arrived at the conclusion that atrophy of the pineal gland occurs in all cases, other observers have been able to find no changes in this organ.

Effects of Oöphorectomy on the Suprarenals.—In rabbits and cats there appears to be a definite increase in the reticulated portion of the cortex at the expense of the zona fasciculata.

Effects Produced on the Thyroid by Ovarian Insufficiency in Women.—The well-known enlargement of the thyroid in pregnancy probably corresponds with that found after oöphorectomy, for in certain respects the ovary is quiescent during pregnancy. It is known that this enlargement normally does not produce the signs associated with exophthalmic goiter, but is due to excess of colloid material. At the same time the author has known more than one case of Graves's disease commence during pregnancy. It is probable, also, that the enlargement of the thyroid seen in girls during menstruation about puberty is due to the incomplete state of development of the ovaries, and histologically is the same in character as that occurring during pregnancy.

A patient aged 25, referred to the author, had had 1 child eleven months before she came under observation. She was able to nurse the baby for a few weeks only, owing to deficient secretion of milk. She presented herself with typical symptoms of early exophthalmic goiter, and her pulse rate was 150 per minute. She had never menstruated since her confinement, but had always been regular before she became pregnant. She was found to have the somewhat rare condition of superinvolution of the uterus. The length of the uterine cavity was under 2 inches. The left ovary was palpable and apparently not atrophied. The pathology of superinvolution is not completely understood, but the author thinks that there must sometimes be an insufficiency of ovarian secretion, even if it be not possible to recognize histologic changes in the ovary with present methods of investigation. At the same time, insufficiency of other ductless glands may lead to the same condition.

On the whole, it is amply proved that ovarian insufficiency leads to changes in the thyroid, which may either be of the type seen after experi-

mental oöphorectomy—namely, colloid accumulation—or, more rarely, that represented by exophthalmic goiter.

Effects of Oöphorectomy on the Pituitary Body.—Removal of the ovaries appears to exert a certain influence over the secretory functions of the pituitary body. But in the author's experience the change is moderate and not quite constant. Thus in one experiment—cat No. 6 of his ovarian removal series—after an interval of 210 days there was no divergence from the normal to be recognized histologically. In most of the cats, however, definite changes were found as long as 245 days after oöphorectomy. There was a large preponderance of eosinophile cells in the anterior portion. This shows activity, but not the great activity seen after thyroidectomy. In the pars intermedia the cells are fused and there are colloid vesicles and sometimes colloid cysts. This colloid stains with eosin, in contradistinction to the normal condition of basophilia. It is interesting to note that the changes which occur in the pituitary with ovarian insufficiency are not comparable with those found in pregnancy.

Effects Produced on the Pituitary by Ovarian Insufficiency in Women.—There is a peculiar and active state produced in the pars anterior and pars intermedia in pregnancy, but the evidence does not lead one to suppose that this is due to ovarian insufficiency. It is probably concerned with the fetal metabolism, for, unlike thyroid enlargement, it appears to become more pronounced late in pregnancy.

The hemianopia that is sometimes seen during gestation has been attributed to pressure produced by the enlargement of the pars anterior. In the increased secretion of this portion of the pituitary some have sought to find an explanation of the enlargement of the hands and lower part of the face, also sometimes noticed during pregnancy. There is no evidence, however, to show that this enlargement is skeletal. It is usually merely a temporary thickening of the soft tissues, such as may be seen after oöphorectomy.

Effect of Thyroidectomy on the Ovaries and Uterus.—In the normal ovary of the cat the zona pellucida, the liquor folliculi, the interstitial cells, and the cells of the corpora lutea all stain faintly with eosin. After thyroidectomy all these elements show an increased avidity for eosin. It seems that removal of the thyroid calls for a response from the ovary, just as oöphorectomy does from the thyroid. The nature of the response brings forward evidence that the granulosa cells of the Graafian follicle form an organ of internal secretion. But this secretion is not connected with the integrity of the uterus, for the effect of thyroidectomy on this organ is remarkable. The uterus of the thyroidectomized cat shows a very considerable muscular atrophy, quite as much as occurs after oöphorectomy. The condition may be described as one of superinvolution. But the same effect is obtained in the non-pregnant animal.

Clinical Observations on the Effect of Thyroid Insufficiency on the Genital Functions in Women.—One frequently sees young girls with adiposity suffering from amenorrhea; or one sees the more marked insufficiency which

produces myxedema and is also invariably associated with suppression of the menstrual function. Both the minor and the major state of thyroid insufficiency are readily amenable to thyroid treatment, with one reservation—if the girl has suffered from thyroid insufficiency for some years past the period of puberty, and has never menstruated, then it may be impossible to relieve her genital condition, and the uterus may remain underdeveloped. If, on the other hand, the insufficiency has arisen later, after the subject has possessed full genital activity, then the uterus may, even after a long period of inactivity, resume its normal functions.

Effect of Thyroidectomy on the Suprarenals.—After thyroidectomy, changes that seem to indicate excessive activity of the suprarenals occur in the cortex; and they may be seen normally in pregnancy, and, so far as is known, in ordinary circumstances. The normal appearances differ, however, from those associated with the activity following thyroidectomy. In three of the author's animals an actual calcareous deposit was found in the zona fasciculata after thyroidectomy. He has not seen this condition in a normal suprarenal gland. What occurs is evidently the production of fatty substances in quantities greater than can be immediately dealt with; then calcium soaps are formed, and finally calcareous deposits are produced, just as may occur elsewhere in the body after a similar series of chemical reactions. Evidently, then, thyroidectomy stimulates the suprarenal cortex to excessive secretion, and this no doubt tends to produce calcium retention and prevent excretion.

Effect of Thyroidectomy on the Pituitary.—Herring states that the only change to be noted is an increase in the number of what he calls "hyaline bodies" in the pars nervosa. These so-called "hyaline bodies" are supposed to represent the secretion of the pars intermedia. But there can be no doubt that some—if not all—represent degenerated pars intermedia cells which have migrated into the pars nervosa. This process is not always so marked as one has been led to expect. Also, in contradistinction to Herring, the author found definite changes in the anterior lobe—most marked in animals which were pregnant when thyroidectomy was performed,—viz., an increase in active eosinophile cells at the expense of the large basophiles; both in the pregnant and non-pregnant animal there is, in addition, an increase of large active chromophobe cells, such as occurs normally in pregnancy.

Thus, thyroidectomy causes an increase in the secretory activity of all parts of the pituitary body.

Effects of Removal of the Pituitary (Partial or Complete).—There appears to be no doubt that the ovaries undergo hypoplastic changes after partial removal of the anterior lobe. There is no good description of the histologic appearances, but Cushing states that the follicles disappear, while the interstitial cells persist. The uterus also undergoes atrophy.

It has been noted by Cushing and others that there is a remarkable degree of hyperplasia in the thyroid after partial removal of the anterior lobe. This condition is said to subside eventually, and be superseded by a considerable colloid formation, with apparent disappearance of epithelial activity.

Removal of the pars anterior leads to hypertrophy of the thymus, just as the condition of hypopituitarism is often associated with thymus enlargement.

Removal of the pars anterior, according to Cushing, is also followed by hyperplasia and lipid vacuolation of the cells of the zona fasciculata in the adrenals.

Effect of Pituitary Insufficiency on the Genital Functions in Women.—It is usual to find amenorrhea both with acromegaly and with the condition which is supposed to represent the opposite, in regard to pituitary secretory activity—the dystrophia adiposogenitalis. With acromegaly the excessive thickening of bones indicates calcium retention—a condition which appears associated with masculinity. The author has seen a patient with acromegaly who developed a deep voice, and had a very considerable hypertrophy of the clitoris. Some might be inclined to attribute this to suprarenal involvement in a polyglandular syndrome. According to Cushing, however, hyperpituitarism (acromegaly) is often associated with low blood-pressure, asthenia, and pigmentation, which indicate suprarenal insufficiency. The author has, in fact, seen a case of acromegaly which presented all the symptoms of Addison's disease.

In view of these facts one must look upon acromegaly as a condition which produces masculinity and consequently amenorrhea.

In cases of dystrophia adiposogenitalis genital atrophy is invariable, yet if the individual has had functional activity before the onset of the disease this activity may return on relief of the condition by decompression or by the administration of pituitary extract. The author has observed this result follow injections of anterior lobe extract in dystrophia adiposogenitalis. Similarly, he has seen good results after the administration of this preparation in cases in which the patient was very obese and suffered from amenorrhea without showing the signs of intracranial pressure, which are usual when the condition has reached the stage of dystrophia adiposogenitalis.

Effects of Thymectomy on the Ovaries and on Calcium Metabolism.—Paton found that if this operation be performed before puberty there is a rapid development of the genital glands. It appears, therefore, as if the thymus either inhibits the development of the ovaries (Biedl), or that their development follows the withdrawal of the thymus secretion. It is highly probable that the thymus is intimately connected with calcium metabolism.

Effects of Thymectomy on Other Ductless Glands.—No reliable work appears to have been done on these lines. It is urgently needed, in order to clear up many of the difficulties concerning the relation of the thymus to the general metabolism.

Effects of the Removal of the Suprarenals on Calcium Metabolism.—With two rabbits subjected to unilateral adrenalectomy, definite results were obtained. One of the animals was destroyed at the end of thirty days, as it was obviously dying. It was much emaciated, its weight having dropped from 2000 to 1400 Gm. The other rabbit died at the end of 127 days.

It also was greatly emaciated, the weight having decreased from 1710 to 1020 Gm. At first the animal gained weight after the operation and then it steadily lost ground. In each case a considerable increase in the excretion of calcium was observed. In one the average quantity excreted after operation was seven times as much as that excreted before operation. In the other it was sixteen times as much.

The excretion of phosphorus was much increased, but not in the proportion one might have expected. The urea excretion was also increased.

The view has been advanced that osteomalacia is due to insufficiency of suprarenal secretion, and Bossi first called attention to the beneficial results to be obtained by the injection of epinephrin in these cases. The author's experiments give strong support to this view of Bossi, not only in the metabolism results, but in a most striking way in regard to the bones of one of these animals. The bones of the forelegs were found to be markedly bent, and the bones of the back legs slightly curved. It was in this animal that the largest quantities of calcium had been excreted.

Effects of Suprarenal Removal upon the Pituitary Body.—The changes that occur seem to be much the same whether the insufficiency be acute or chronic. The cells of the pars anterior show a marked degree of chromophobia with a moderate degree of faint eosinophilia. In many places the nuclei are very deeply stained with hematoxylin. In the pars intermedia the cells are discrete and show no special activity; the nuclei stand out prominently. The pars nervosa is freely invaded by the cells of the pars intermedia, but the nuclei only are prominent, as though they were left stranded after the disappearance of the cell cytoplasm.

One cannot but come to the conclusion that the anterior lobe shows greatly increased activity. The pars intermedia is apparently not in an actively secreting condition, but the extensive invasion of the pars nervosa by pars intermedia cells and the immediate disappearance of the cell cytoplasm appear to indicate that an attempt is being made to counterbalance the loss of epinephrin by the rapid production of infundibulin.

Effect of Removal of the Suprarenals upon the Thyroid.—The author has been unable to trace any histological change either in acute or chronic suprarenal insufficiency.

Effects of Removal of Suprarenals on the Ovaries and Uterus.—There appears to be no histologic change of importance in the ovary. After removal of one suprarenal, if insufficiency be produced, the uterus appears to undergo changes comparable with those that are seen after thyroidectomy, but the muscular atrophy appears less in extent.

Effect of Pathologic Lesions of the Suprarenals on the Genital System in Women.—Amenorrhea appears to be usually associated with Addison's disease, but this may be due solely to the effects of a condition which produces general progressive enfeeblement. On the other hand, experimental evidence indicates that atrophy of the uterus, presumably with insufficiency of the function of the interstitial cells, occurs in these circumstances.

Other pathologic lesions which have been subjected to attention lately

are hyperplasia and tumor formation in the suprarenal cortex. For some years these lesions have been known to be associated with extraordinary changes in the primary and secondary sex characteristics. Glynn found that of 17 cases in children 14 were females. In these there were usually skeletal overgrowth, hair on the face and pubes, and sometimes hypertrophy of the clitoris. Further, Glynn collected 6 cases occurring in young adult females in all of whom there was growth of hair on the face, shrinkage of the breasts, amenorrhea, and sometimes a masculine voice. In a second group of cases there were 13 pseudohermaphrodites, 12 being females, and in these the suprarenal enlargement was bilateral, hyperplastic in nature, and there were no metastases. Glynn suggests that in these cases hyperplasia of the suprarenal cortex occurred in fetal life before the differentiation of the genital ducts, and led to the persistence of the Wolffian derivatives, thus causing female pseudohermaphroditism.

No sex changes are associated with tumors of the suprarenal cortex when they occur in adult males or in women after the menopause.

Correlation of the Internal Secretions in Regard to their Genital Functions.—When the reproductive functions cease and the ovaries atrophy at the menopause the harmony that previously existed between the general and the genital metabolism is temporarily deranged, and various disturbances may ensue. It is only by the careful investigation of each menopausal case that one can arrive at a determination of the manner in which the balance has been upset. It is impossible always to alleviate the symptoms, but the basis of treatment rests on the regulation of the existing disarrangement by the administration of the necessary secretions. Some patients react to thyroid extract, some to pituitary, others, again, to combinations, so great are the individual variations. In most cases a natural readjustment takes place in the course of time.

Strictly speaking, the ovary is only concerned in the temporary function of reproducing the species, and, by its hormones or internal secretions, of bending the metabolism of the body to its purpose. As accessory to these functions the ovary has been supposed to be responsible for the beauty of the vessel by means of which its ends are to be attained. But today one is beginning to wonder how far the ovary does influence secondary sex characteristics, and whether full individual secondary characteristics can be obtained by the influence of the ovary alone. There is evidence that hyperplasia of the suprarenal cortex can upset any influence the female genital gland may be supposed to possess, and can produce in a female some of the secondary characteristics of the male, and even partially change the genitalia to complete the picture. The author has seen a case that possessed every female characteristic except for the absence of uterus, Fallopian tubes, and ovaries; instead, there were testes within the abdominal cavity. This individual was a male pseudohermaphrodite with the pure secondary characteristics of a female, and a prepossessing one at that. Such a condition could not have existed with hyperplasia of the suprarenal cortex; in fact, it is probable there was hypoplasia.

Any influence the ovary has over the general metabolism is, then, related to and dependent on its primary reproductive function. It probably does not influence the metabolism except in so far as this special function is concerned. Of course, removal of the ovaries may produce a temporary disturbance, but this does not invalidate the view mentioned.

On the other hand, the rest of the ductless gland system is related to the genital functions in various ways. Firstly, some of the members—the thyroid, pituitary, and suprarenals—influence the development and subsequently preserve the integrity and activity of the genitalia. Others—the thymus, and possibly the pineal—appear to prevent sexual precocity. Secondly, all the ductless glands control the metabolism in response to the necessities of the genital functions. But, in addition, they adapt the whole organism to the possibility of the situation, and regulate the secondary characteristics, both physical and psychical, to suit the needs of the individual. Once, however, the reproductive organs are removed or undergo atrophy, the primary genital functions of the rest of the ductless glands cease, and the rearrangement of the metabolism that follows produces what are known as the symptoms of the menopause. Contrariwise, insufficiency of the thyroid, pituitary, or suprarenals causes the cessation of the genital functions with atrophy of the uterus. In spite of the reluctance to correlate our knowledge shown by most investigators the matter is not one of very great complexity if the author's views be correct in a general way, although there remains much detail to be filled in.

INJECTION OF QUININE AND UREA HYDROCHLORIDE IN HYPERTHYROIDISM.*

By LEIGH F. WATSON, M.D.,

OKLAHOMA CITY, OKLA.

CASES are reported by the author to show the immediate effects on the symptoms after injecting quinine and urea hydrochloride. The patients had all been on medical treatment for from one to two years without improvement.

CASE 1. Mrs. S. K., married. Family trouble for the previous few years. Gouter was first noticed three years before. The enlargement and symptoms gradually increased in spite of medical treatment and rest. The patient was very nervous, and there was tremor of both hands. The pulse ranged from 130 to 160.

Both superior thyroid arteries were ligated and 90 minims of a 1 per cent. quinine and urea hydrochloride solution injected into the body of the right lobe, 60 minims into the left lobe, and the same quantity into the isthmus. The pulse was 160 at the end of the operation, in spite of nerve-block of the neck. It was 150 the next morning, 130 that evening, 112 the second morning after operation, and 104 that

* Summary of article in the Journal of the American Medical Association, January 10, 1914.

evening. The insomnia, nervousness, and tremor disappeared within forty-eight hours. The following week the pulse averaged 100, gradually becoming slower until it reached 80, at which point it remained.

CASE 2. Miss H. S., aged 24, single, whose mother has had goiter for years, and whose sister died of hyperthyroidism one month before, complains of nervousness, tachycardia, insomnia, and a severe diarrhea of two years' standing. The patient is losing weight. There has been amenorrhea for sixteen months. The right lobe is 3 inches long and the isthmus somewhat enlarged.

The skin at the site of the injection was infiltrated with a few drops of local anesthetic solution. Through one skin puncture over the center of the left lobe the needle was inserted and 25 minims of a 4 per cent. quinine and urea hydrochloride solution injected at four different points into the body of the left gland. The procedure was repeated for the right lobe and the same amount injected; 30 minims were then injected into the isthmus.

The diarrhea stopped within twenty-four hours. The pulse was 90 after the injection and the general condition was improved. The patient was gaining in weight.

CASE 3. Mrs. W. D., aged 33, married, housewife; began teaching school at 16; in a few months noticed increasing nervousness and insomnia, with slight enlargement of the right lobe. Tachycardia becoming steadily worse. Pulse, 120 to 160. Tremor of both hands for eight years. Slight exophthalmos. Constant pain over both ovaries, most marked on the left side; menstruation, with dysmenorrhea, every two or three weeks.

When the first injection was given the right lobe was about the size of a hen's egg, and the left about half as large, with moderate hypertrophy of the isthmus. Forty minims of a 2 per cent. quinine and urea hydrochloride solution were injected into each lobe and the isthmus. Improvement was prompt. On the day following the injection the pulse dropped to 90; for the next two weeks while the patient remained in bed the pulse was from 70 to 80. One month later she was operated on under general anesthesia, with a thorough nerve-block of the operative field; left salpingo-oöphorectomy, right oöphorotomy, and appendicectomy. The cervical canal was flexed and markedly stenosed; dilatation and curettage were done. Throughout the operation the pulse was below 90. The pulse was 80 during the following week.

At the second injection, ten days after the operation, examination showed a small, firm, circumscribed right lobe. The left lobe and the isthmus were also reduced in size. Thirty minims of a 4 per cent. quinine and urea hydrochloride solution were injected into each lobe and the isthmus. Next day the pulse was 80, and normal on the second day, when the patient left the hospital. The patient gained 10 pounds in two weeks.

ACTIVE PRINCIPLES IN THE HYPOPHYSIS.*

By H. FÜHNER, M.D.,

BERLIN, GERMANY.

SOME of these principles can be separated from protein-free pituitary extracts by precipitation with the common alkaloidal precipitants, such as phosphotungstic acid. Upon decomposing the precipitate with baryta water, removing the excess of barium salt with sulphuric acid, and evaporating *in vacuo* the resulting solution, there is obtained a faintly yellowish crystalline

* Summary of article in *Nouveaux Remèdes*, January 24, 1914, from *Pharmaceutische Centralblatt*, 1912, p. 329.

salt (a sulphate), which dissolves readily in water, but only with difficulty in alcohol, acetone, ethyl acetate, etc. In alkaline solutions this body yields a violet coloration when a dilute solution of cupric sulphate is added (positive biuret reaction).

Further study of the body referred to shows that it is actually a mixture of four different substances, which can be separated by repeated fractional precipitation: 1. A colorless crystalline salt, readily soluble in alkalinized water, but with difficulty soluble in organic solvents. It is levorotatory and carbonizes without melting when heated. It gives a positive biuret test, and with picric acid forms a salt dissolving only with difficulty in water. Pharmacodynamic investigation showed that this substance possesses the typical action of pituitary extracts on the blood-pressure, but is only feebly active as regards the respiration and the uterus.

2. Another colorless crystalline salt, dissolving readily in slightly acidulated water, but with difficulty soluble in organic solvents. It is levorotatory, but less strongly so than the preceding substance. It gives the biuret test and forms a picrate which dissolves easily in water. Placed in contact with alkalis, it immediately breaks down, with liberation of a volatile amine base. It acts strongly both on the blood-pressure, respiration, and uterus.

3. A slightly yellowish sulphate, found only in small amount. It dissolves readily in alcohol and in dilute methyl alcohol having a slightly acid reaction. It dissolves only with difficulty in absolute alcohol, acetone, and ethyl acetate. It is levorotatory, gives a positive biuret test, and forms a soluble picrate. It acts strongly on the blood-pressure and respiration, and produces a more powerful effect on the uterus than any other principle found in the hypophysis.

4. The mother liquor remaining after fractional precipitation of the preceding three substances yields, upon careful evaporation *in vacuo*, a vitreous, brittle, and hygroscopic mass which dissolves readily only in water and methyl alcohol. It gives a positive Pauly test, but not the biuret test. Pharmacodynamically, it exerts a feeble action on the blood-pressure and respiration, but a powerful action on the uterus.

The fluid remaining after precipitation of the original extract with phosphotungstic acid and the removal of this precipitate by filtration yields, upon fractional precipitation, four additional substances, which, while in part crystallizable, do not exert a pronounced action on the respiration, blood-pressure, and uterus.

In view of the fact that the effect of pituitary on the uterus does not depend on a single one of its contained principles, but upon several of them, which differ in power and may produce a mutual reinforcement of action, separate use of the individual principles is not indicated. One of the above-mentioned preparations, however, which can always be obtained chemically pure and of constant composition, is available under the name "hypophysin," and may be prescribed in the form of a sterile aqueous solution containing 1 mg. ($\frac{1}{65}$ grain) of hypophysin in every cubic centimeter (16 minims) of water.

HYPERTHYROIDISM FOLLOWING THE REMOVAL OF MORPHINE IN AN HABITUEE.*

By CURRAN POPE, M.D.,

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A LADY, 34 years of age, married, the mother of 2 normal healthy boys, had lived at home and followed the usual occupation of a housewife and mother. She was of strong build, but had lost considerable flesh and weight. The inception of the habit had come through the medical administration of the drug and she was using from 12 to 15 grains of morphine in 4 or 5 doses daily, by the hypodermic route. Her family history shows a neurotic tendency. The patient had been what she called healthy, although, on three occasions she had been more or less nervously exhausted, and at these times complained of cardiac palpitation and anxiety—not enough to constitute a true anxiety neurosis. She complained of no digestive disturbances, was careful in the mastication of her food, and had a good appetite, but was constipated because of the morphine and had occasional bilious attacks. There was no visceroptosis. The skin was clear, but slightly dry. The thyroid was normal in size and rather difficult to discover. Since beginning the use of the drug she had noticed no failure of menstruation, but a considerable diminution in the quantity and duration of the flow. The knee jerks, Achilles and superficial reflexes were increased markedly; the Babinski and Chaddock were negative and there was no clonus or ataxia. The pupils were of pinpoint size and unresponsive (morphine).

The patient was put upon the usual method of elimination and taken off the drug without the use of hyoscine. At the end of six days the morphine had been removed and she was seemingly in good condition. On the morning of the seventh day there was a sudden marked protrusion of the eyes and a very slight von Graefe sign; pupils quickly responsive to light. The thyroid at the same time had enlarged markedly, was hard, tense, and upon auscultation showed a slight bruit. The pulse had risen to 160, and was small and wiry, but weak; there was marked tremor, sweating, and persistent diarrhea,—*i.e.*, a sudden or acute hyperthyroidism. The patient at times was a little flighty, was exceedingly nervous, restless, and irritable. The treatment employed consisted of immediate and free purgation by means of castor oil, the internal administration of strophanthin, and the ice-bag over the thyroid and heart. Several times it looked as if the patient was to be lost, but at the end of three days the attack began to subside. There was a slow but steady recession of the eyes to practically normal, a slower diminution of the thyroid, a drop in the pulse, cessation of the tremor and sweating, and a very slow and gradual recovery from the diarrhea. At the end of the fifth day she was up and by the end of the next two weeks approached closely to her normal state.

* Summary of article in the Kentucky Medical Journal, December, 1913.

The only explanation of the thyroid attack suggesting itself to the author was that she had a slowly developing Graves's disease the manifestations of which had been kept under by the use of the drug. Yet the very rapid subsidence of the manifestations of exophthalmic goiter and their *subsequent absence* seemed to indicate that one had to deal with an acute hyperthyroidism of obscure origin.

THE PARATHYROIDS.*

By W. G. MACCALLUM, M.D.,

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THE most constant and definite feature of tetany is the hyperexcitability of the nerves to electrical and other stimuli. By perfusion experiments it can be shown that the blood of an animal which has lost its parathyroids and developed tetany is so altered that it will produce a specific hyperexcitability in normal nerves which it is made to bathe and nourish. What the change is is still doubtful, but analysis shows that in such blood the proportion of calcium compounds is reduced very greatly. It is known that the abstraction of calcium from a muscle-nerve preparation leaves the nerve hyperexcitable, while the replacement of the calcium brings the excitability back to normal. Too much calcium will still further dull the power of the nerve to respond to stimuli. Injections of calcium into the veins will almost instantly stop the symptoms of tetany, which reappear only when the effect of the calcium has worn off. Probably in such doses as one can calculate, this effect is not due to the mere replacement of the deficient calcium, but also to the dulling effect upon the nerves of the excessive dose. Other evidence of the rôle of calcium in tetany is furnished by the observations of Erdheim, who found that teeth fail to harden and fractured bones to heal firmly in rats deprived of their parathyroids and living in a state of chronic tetany. There is no very good evidence of the presence of a poison in the circulation in tetany.

Parathyroid extract given by mouth in tetany seems to have little effect; injected intravenously, it prolongs life somewhat and decreases the actual convulsions, without lowering the excitability of the nerves to any great degree. No definite relation is found between the parathyroid glands and exophthalmic goiter.

Infantile tetany, tetany of pregnancy and lactation, of various intoxications, and other more obscure conditions, as well as that which results from obstruction and dilatation of the stomach, appear to be caused not by the destruction of the parathyroids, but by some cause external to them which produces these symptoms in spite of the best efforts of the parathyroid glands. In many of these forms—and perhaps particularly in the tetany which is so often associated with rickets and osteomalacia—a disturbance of

* Summary of article in the Post-Graduate, February, 1914.

calcium metabolism leading to the reduction of the soluble calcium in the blood and tissue-fluids seems to be suggested, and it is not impossible that in gastric tetany this same condition is brought about by the great loss of chlorides in the vomited fluid. Therapy in such cases is best attempted through the removal of the cause of the disease and not by supplying parathyroid extract.

When the parathyroid glands are injured or destroyed by operation or otherwise, and symptoms of tetany result, parathyroid extract may be of some temporary use. Calcium is far more effective in overcoming the symptoms in such an emergency and will tide over a dangerous period, but transplantation of parathyroid tissue, though difficult and often unsuccessful, offers the only hope of permanent relief.

DEMONSTRATION OF VARIATIONS IN THYROID COLLOID.*

By A. P. JONES, M.D.,

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BUNTING and Brown, in the thyroids of rabbits, following bile intoxication, had in some instances found the colloid of the thyroid extensively vacuolated and pale staining.

With the idea in mind that an outpouring of thyroid secretion following intoxication was the most probable explanation, the author sought a staining method which would differentiate the presence or absence of the thyroiodin in the thyroid colloid. It was found that, following fixation by Zenker's fluid or bichloride, the colloid showed, with variations of conditions, a variable affinity for the different elements of Mallory's connective-tissue stain.

A slight modification of the method described by Mallory and Wright was found to give best results. This consists in omitting the acid fuchsin and staining only with the mixture of orange G and aniline blue.

From the experiments it can be stated definitely that the colloid which contains iodothyryn stains with aniline blue, while that which does not stains with orange G. Both staining reactions can often be seen in the colloid of the same alveolus. This staining reaction apparently depends on the fact that orange G has a greater affinity for the colloid than has the aniline blue, but is decolorized by iodine or the mercuric salts of iodine, while aniline blue is not affected by iodine and therefore stains the iodine-containing colloid. This can be demonstrated *in vitro*. It must be borne in mind that the stain indicates only the thyroiodin of the colloid and gives no evidence of that in the thyroid tissue.

In every instance the total area of blue-staining colloid was greatly increased after the feeding of iodine. In one experiment the control portion showed not only a great predominance of orange-staining colloid, but also

* Summary of article in the Journal of Experimental Medicine, May, 1913.

a histologic picture indicating a state of activity, while the portion removed after iodine feeding showed, besides the change of the colloid to blue staining, a histologic change to the resting, or colloid-goiter, stage. This change to the resting stage following iodine feeding has been repeatedly observed by Marine.

It was observed that any shock to the rabbit, such as prolonged anesthetization, severe operation, or convulsions, caused a diminution of the blue-staining colloid and a corresponding increase in the orange-staining area. This was interpreted to mean an outpouring of thyroid secretion. Arguing backward from the symptoms of exophthalmic goiter, where hyperactivity of the thyroid is followed or accompanied by tachycardia and muscular tremor, an attempt was made to determine the effect of tachycardia and excessive muscular action on the thyroid. For the production of tachycardia, rabbits were anesthetized, a control portion of thyroid was removed, and both vagi were cut as low down in the neck as possible, so as to avoid the nerve supply of the gland. The animals lived from twenty-four to forty-eight hours after operation, dying finally from lung involvement. The results were constant and striking, and showed that greatly increased activity of the heart is accompanied by an outpouring of iodothylin from the thyroid colloid. Experiments with excessive muscular activity, as so far carried out, give similar evidence. In a dog that had been four hours under ether anesthesia, the thyroid showed large vesicles filled with colloid, which was almost entirely orange staining, and the chemical analysis showed an extremely low iodine content.

These experiments seem to show a relation between the outpouring of iodothylin from the thyroid colloid and the increased muscular action, and, further, that the colloid of the follicles serves as a matrix or menstruum for the storing of the iodine-containing principle of the gland in much the same way as the hemoglobin is held by the stroma of the erythrocyte. The complete outpouring of the colloid of the alveoli, often observed in experimental work on the rabbit, but due to factors not yet ascertained, might indicate that in the colloid itself are further important secretions of the thyroid cells, or else that the colloid is the means of rendering available to the organism the last vestige of iodothylin held in the acini.

Abstracts from Current Literature on the Internal Secretions

Tests for Epinephrin.—In testing for epinephrin, two sorts of reactions, the biologic and the chemical, have been employed. The first biologic procedure was that of Ehrmann, who showed the mydriatic action of solutions of epinephrin on the enucleated frog's eye. It was soon shown that this reaction was not specific, being likewise given by

pyrocatechin, and also that it was neither sensitive nor reliable. Fränkel's reaction, based on contraction of the rabbit's uterus; Carraro's reaction (action on the heart of daphnia), that of Meltzer and Auer (action on the ocular conjunctiva), that of Kahn (action on the intraocular tension), that of Loewi (action on the pupil), and a number of others have all proven insufficient or non-specific.

The chemical reactions proposed are at least as numerous. Vulpian was the first to call attention to the emerald-green color produced upon contact with ferric chloride. This reaction is not very sensitive, detecting only 1:10,000 epinephrin, and is, therefore, useless for detecting epinephrin in organs or in the blood. The other procedures are almost all likewise based on color reactions, obtained, *e.g.*, with calcium permanganate (Zanfrotnini), corrosive sublimate (Commesatti), potassium dichromate (Kohn), osmic acid (Mulon), iodine (Abelous), sodium bisulphate (Pancrazio), potassium bisulphate (Ewins), etc. In general, these reactions are more or less sensitive and sufficient to show the presence of epinephrin in artificial solutions, but very imperfect as regards its detection in organic products, the blood in particular. Thus, Facchini and Tomassi, studying these methods, experimented with the best four of them on 20 human sera, obtained, respectively, from 15 individuals with vascular hypertension and 5 with hypotension. All these sera gave a positive result with Ehrmann's frog-eye method; in none, however, could the presence of epinephrin be detected by the chemical methods above mentioned.

The author, in actual tests, found that the reactions with iodine, corrosive sublimate, sodium bisulphate, and potassium bisulphate gave results distinctly superior to those of the other chemical tests. Each reaction, however, proved disadvantageous in some way, and the author sought to obtain better results by combining them. The procedure advised is as follows: Down along the side of a tube containing the epinephrin solution allow to run a small amount of iodine tincture. A pink ring will at once form where the fluids come into contact; this color will gradually spread throughout the subjacent fluid. In the case of very dilute solutions the color disappears very rapidly. There are then added a few cubic centimeters of a 1:1000 aqueous solution of sodium or potassium bisulphate. A distinct red coloration reappears, sometimes purplish and persistent. This reaction, by reason of the rapidity of the response and the duration of the resulting color, appears to be superior to the other methods. Its sensitiveness attains 1:2,000,000. The color is still plainly present after several days have elapsed. Emilia Moreschi (*Gazzetta medica italiana*, January 30 and February 6, 1913; *Presse médicale*, July 2, 1913).

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Lipoid Substances of the Human Hypophysis and their Relation to its Secretion.—In the cells of the pituitary there are present, together with a protein substance, isotropic lipid droplets, which increase in size

and number with the age of the individual. The anisotropic substance met with in the cells of some of the hypophyses studied consists of cholesterin esters, probably of oleic acid. As is nearly always the case, these substances are not pure, but are accompanied by other lipid bodies—fatty acids and soaps. The cell lipoids of the hypophysis are not secretory products, but are to be looked upon as the expression of declining cellular function. The lipid droplets found in the connective tissue of the pituitary exhibit the same reactions as the isotropic cell lipoids, and may be looked upon as nutritive material. The diffuse, finely granular fatty change of the interstitial tissue of the hypophysis can be considered a manifestation of aging and is presumably dependent chiefly upon glycerin esters. The lipid droplets seen in the leucocytes are fatty acids; they have nothing to do with elimination of the cell lipoids, but constitute a common finding in normal leucocytes.

All the cells of the hypophysis except the "chief cells," which become active only during pregnancy, produce a colorless secretion which cannot be conceived of as a thinned colloid material, and is destined to travel to the brain along a pathway extending through the posterior lobe and the infundibulum. A portion of this secretion reaches the circulation and is thus thrown off from the organ in the forms of colorless droplets. Meanwhile, however, the secretion supplied from the eosinophile pituitary cells becomes intimately blended with isotropic lipid substances, thereby becoming sudanophile and no longer mixing with other secretion droplets that have remained colorless.

The colloid of the anterior lobe is to be looked upon as a product of degeneration of the pituitary cells and is eliminated by passage into the circulation; at times cell lipoids also reach the blood along with the colloid.

The neutral fat constantly present in the parahypophysial connective tissue contains fatty acid crystals, which dissolve upon prolonged immersion in formalin. E. J. Kraus (Ziegler's Beiträge; Zentralblatt für experimentellen Medizin, July 10, 1913).

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Cases of Myxedema Following Acute Infections in Childhood.—Report of 2 cases in one of which myxedema followed measles, and in the other acute rheumatism. In the first case the myxedema progressed very slowly, the patient not entering the hospital until the age of 36, though physical abnormalities had been first noted at 12 (two years after the measles). Intellection and the genital functions remained for many years uninfluenced by the condition. Thyroid treatment yielded undoubted results, *e.g.*, removing edema and improving the condition of the hair, but these results were not permanent, the patient dying in the hospital in a cachectic state at the age of 50 years. At the autopsy there was noted, in addition to complete absence of the thyroid and some sclerosis of the pituitary, one histologically normal parathyroid gland. Roussy and Clunet had already demonstrated the integrity of the para-

thyroids in congenital myxedema, but only 1 case showing parathyroid preservation in adult myxedema had been reported, that of Forsyth, concerning a man 58 years of age who had had scarlet fever and measles in childhood and who developed myxedema only at 54. In Forsyth's case the parathyroid tissue was found to contain much colloid and to show a tendency to a thyroid-like vesicular arrangement, suggesting that the parathyroid had undergone change in an attempt to make up for the lacking thyroid function. In the author's case, however, there was but very slight hyperplasia of the parathyroid.

In the second case the signs of myxedema were less typical than in the first, but nevertheless left no doubt as to the diagnosis. The patient had had rheumatic fever at the age of 8 years, and was brought to the hospital seven years later for deformity and ankylosis of the extremities, due to a chronic progressive joint process. The myxedema was probably due to a rheumatic thyroiditis. Whether the chronic deforming rheumatism was the direct sequel of the acute rheumatism or was, like the myxedema, a consequence of the thyroiditis could not be decided, as thyroid treatment did not yield very striking results. C. Achard and F. Saint-Girons (*Bulletins et mémoires de la Société médicale des Hôpitaux de Paris*, October 16, 1913).

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Leucocyte Extracts in Infectious Diseases.—Results of treatment of infections in animals with leucocyte extracts described. Infections or poisonings were usually brought about by intravenous inoculations, and, as a rule, the extract was injected subcutaneously, although at times intraperitoneally. Animals receiving subcutaneous injections of rapidly fatal doses of *Staphylococcus pyogenes aureus* can generally be saved by treatment with the extract of normal leucocytes of rabbits, even in small doses, especially when these are given intraperitoneally. When intravenous injections of staphylococcus are practised, the results are different, but treated animals usually survive the controls many days and present modified histologic pictures. In streptococcus infections there was a marked lengthening of life and even a survival of the treated animals. Pneumococcus infections, surely fatal in untreated rabbits, become significantly modified in treated animals, even if the treatment be delayed many hours. Leucocyte extracts have a remarkably beneficial action on the course of typhoid infections. Experiments with meningococcus infection also pointed strongly to the value of leucocyte extract.

Speaking most strongly for an explanation of the action of leucocyte extracts as either poison-neutralizing or poison-prohibiting, rather than primarily bactericidal or bacteriolytic, are the effects on temperature, which in fever tends to be lowered, and, when falling below normal from the intensity of the poisoning, tends to rise on treatment, and likewise the effect of the extract in preventing diarrhea. Hiss (*Journal of Medical Research*, July, 1913).

Thyrosis and Tuberculosis.—Under the term “thyrosis” the author groups the various forms of intoxication dependent upon the thyroid, evidenced classic or incomplete (“fruste”) Basedow’s disease, thyroid enlargement, inability of the patient to gain weight in spite of overfeeding, and Kocher’s blood-cell formula, with lymphocytosis and mononucleosis. Of 45 cases of marked thyrosis, including 6 of typical exophthalmic goiter, but 1—a case of grave exophthalmic goiter without rise of temperature—did not present some signs of tuberculosis. The remaining 44 showed a subfebrile or febrile temperature, all reacted more or less intensely to injections of tuberculin or yielded a positive intracutaneous test, and about one-half of their number presented signs of pulmonary tuberculosis. From his personal experience the author believes that tuberculosis plays an essential etiologic rôle in the causation of thyroses, including exophthalmic goiter. In most instances in which this is the case the associated tuberculosis is in an early phase and mild in form, active forms of tuberculosis being but rarely accompanied by thyrotoxic symptoms. In the absence of other complications thermic elevations witnessed in the course of a thyrosis must nearly always be ascribed to a concomitant or causal tuberculosis. The author agrees with Möbius that pure Basedow’s disease is not accompanied by fever. From the therapeutic standpoint, severe cases of exophthalmic goiter require surgical treatment in spite of a complicating tuberculosis. L. Saathoff (*Münchener medizinische Wochenschrift*, February 4, 1913; *Semaine médicale*, July 23, 1913).

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Polyurias of Hypophyseal Origin.—The infundibular lobe of the pituitary contains, in addition to a substance capable of glycogenolysis, a chemical body or hormone capable of eliciting diuresis. Under certain operative conditions which entail posterior lobe manipulations there often occurs a diuretic response, and occasionally an extreme polyuria, whereas a temporary diminution in the excreted urine is apt to follow other operative procedures requiring an equally long anesthetization. Posterior lobe implants may cause a temporary polyuria, which subsides on the removal of the implanted tissue. Stimulation of the autonomic system of nerves to the organ elicits diuresis. Certain operative procedures, such as separation of the infundibular stalk, and occasionally a simple posterior lobe excision, may call forth a somewhat prolonged polyuria. Clinical observations, coupled with experimental data, suggest not only that the emotional polyurias are in all likelihood the expression of a neurogenic discharge of hypophyseal secretion, but also that the clinical polyurias of longer duration are in many instances merely the symptomatic expression of an internal secretory disturbance brought about by injury or disease involving the hypophyseal neighborhood. Whether or not there actually proves to be a form of polyuria of primary renal origin, present conceptions of so-called diabetes insipidus need to be recast. Harvey Cushing (*Boston Medical and Surgical Journal*, June 19, 1913).

Resistance of the Testicles to Experimental Adenocarcinoma Inoculation.—In experiments with the Flexner-Jobling adenocarcinoma of the white rat the author noticed that, while the tumor grows when inoculated subcutaneously or into any other organ in a large percentage of animals used, it does not grow when inoculated into a normal testicle. When a testicle, however, is treated before inoculation either with an emulsion of scharlach R in oil or an emulsion of ether in water, there takes place inflammation with proliferation of the intertubular connective tissue, and, after this, inoculation of the same tumor into the organ is successful. The failure of the growth of the tumor in the normal testicle is not due to a general condition of the organism, but to a local action of the testicle on the tumor cells. The percentage of animals which are generally resistant to a subcutaneous inoculation is very small, and all the animals used for inoculation into the testicle could not have been resistant to the tumor. Nor is the resistance due to the tunica interfering with the expansion of the organ by the growing tumor, nor, again, to the lack of specific food in the organism of the host. Investigations have shown that other inoculable tumors grow well in the testicle. The local resistance can be due only to an inhibitory action of the cells of the testicular tubules on the tumor cells. I. Levin (Medical Record, November 29, 1913).

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Use of Wire Clamp in Operations for Goiter.—The use of a wire clamp in these operations, the author finds, has a number of advantages: 1. It may be adjusted to almost any goiter by bending the wires, although such bending is seldom necessary. 2. Control of hemorrhage is nearly always perfect, so that the gland may be sliced off beyond the clamp with absolute confidence. 3. The tissues are not crushed, but simply constricted as with the use of a tourniquet—which is of importance in exophthalmic goiter at least. 4. There is no danger to the recurrent laryngeal nerves or to the parathyroids; even if they should be caught in the grasp of the wires, which is unlikely, the compression would not be great enough to do permanent injury. 5. There is no chance of the wires slipping from the stump after the gland is resected, because they are held in place by hoops passing through the base of the lobe. 6. The wires are much narrower than the blades of a pair of forceps and hence take up less room. The author has used this method in 20 goiters of various kinds in which it seemed to be indicated. The operations proceeded easily and without anxiety, and there were no fatalities. Leonard Freeman (Proceedings of the Western Surgical Association; Medical Fortnightly, February 10, 1914).

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Thymus Death in the Newborn.—Case of a child who died in a paroxysm of dyspnea twenty-four hours after birth, exhibiting nothing abnormal in the neck and thoracic regions. The post-mortem examination showed a thymus greatly enlarged in both lobes. Recent studies of the relationship existing between the placenta and the thyroid suggest

that the large thymus in the newborn must share in various disturbed conditions of maternal and fetal metabolism.

A possible reason for its sudden enlargement after birth may be found in the measures sometimes taken to establish respiration in the newborn. The most simple and universally employed method consists in folding and unfolding the body of the child in such a manner as to encourage the circulation through the lungs and thorax. A delicate lymphatic organ like the thymus, composed of lymph-follicles and with a very rich blood-supply, might easily become surcharged with blood during this manipulation, and its sudden engorgement through mechanical pressure might bring about death. These suggestions are based (1) upon analogy between altered conditions of other ductless glands in the fetal body and sudden death, and (2) on reported results of treatment directed toward the relief of mechanical pressure. David (*American Journal of Obstetrics*, May, 1913).

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Hypophysis Therapy in Diabetes Insipidus.—The author reports the case of a girl aged 23 suffering from marked diabetes insipidus. At 18 years she had had a miscarriage, and at 22 tuberculous pleurisy. A positive Wassermann reaction was obtained. Five months before she had suffered from amenorrhea, and developed polyuria and polydipsia. There was no hypertrophy of the thyroid. The arterial pressure was 110 to 112 mm. The daily amount of urine was 5 to 6 liters; specific gravity 1000; no albumin, no sugar. There were no signs of hysteria. The skin acted poorly. There was some evidence of syphilitic retinitis, but no optic neuritis. Opium, valerian, iron cacodylate, mercury, and potassium iodide were each tried without effect. She was then given injections of 0.2 Gm. of pituitrin in 1 c.c. of water and 0.1 Gm. of hypophyseal extract. Immediate success followed this treatment, as seen in diminished polyuria and polydipsia. Whether the product acted directly by replacing an abnormal secretion of the hypophysis, or acted partly on the ovaries or on the system at large, the author does not venture to decide, but there was no doubt as to the directly beneficial effect of the extract. Unfortunately the effect was not lasting, and soon disappeared when the drug was discontinued. No ill effects were witnessed. Farini (*British Medical Journal*, November 29, 1913).

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Thyroid Tissue in Tumors of the Ovary.—In certain ovarian tumors there occur areas of tissue which cannot be distinguished histologically from the thyroid gland. Between tumors which show a complex teratomatous structure, containing among numerous other elements a small amount of thyroid tissue, and those composed solely of this, there is no sharp dividing line. All these tumors are of similar genesis; they are teratomata, with varying degrees of suppression of the ectodermic and mesodermic elements.

The large majority of these tumors are clinically benign; the few which are malignant show, in most instances, areas of unmistakable irregularity in their cellular structure, or give other histologic evidence of having assumed a destructive type of growth. The thyroid tissue in the ovary is of no functional significance, at least in the vast majority of cases, and these growths give rise to no symptoms other than those which would be produced by any type of ovarian tumor of equal size. The term "teratoma thyroidiale ovarii" is suggested as the most satisfactory designation for those tumors in which the thyroid tissue forms the dominant feature. G. W. Outerbridge (*American Journal of Obstetrics*, December, 1913).

* * *

Diarrhea of Thyroid Origin.—A thyroid origin should be suspected in all cases of obstinate "nervous" diarrhea, even without any other indications of thyroid disturbance. A woman of 43 had severe diarrhea in the morning for six months, marked debility resulting. Except for some enlargement of the thyroid since the age of 16, she had always been healthy. The author, suspecting thyroid intoxication, obtained a positive response to the Loewi test (mydriasis on instillation of epinephrin in the eye). The blood showed also a lymphocytosis. On these findings alone he did a thyroidectomy, and at once the diarrhea was cured and the patient promptly recovered. Attention is called to a dissociated reaction of the pupils, the exact reverse of the Argyll-Robertson sign, which the author has never met with except in exophthalmic goiter. The epinephrin mydriasis, with other symptoms, points to insufficient functioning of the pancreas as a factor superposed on the excessive thyroid functioning. The connection between these glands suggests that pancreatic extract might be given a trial in cases of diarrhea of thyroid origin, and might render resection of the thyroid unnecessary. H. Curschmann (*Archiv für Verdauungskrankheiten*, February, 1914).

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Epinephrin in Osteomalacia.—In a case of osteomalacia the author obtained excellent results from the use of epinephrin, injected in doses of 0.5 c.c. daily, in two series of 9 injections each. After the fifth injection the patient could turn around in bed and sit up; after the ninth injection she was able to walk and there was much less tenderness over the bones. Slight after-effects, in the form of cardiac palpitation, headache, and tremor, were present. The patient was finally discharged as cured and subsequent examinations showed no return of the symptoms, despite the fact that she had been ill for sixteen years. In other cases it may be necessary to give more epinephrin; thus, some authors have given as many as 150 injections of 0.5 to 1 c.c. As a rule, larger amounts are better tolerated in the acuter stages of the disease. According to the author, the use of epinephrin seems to be the most effective treatment of osteomalacia now available and is to be preferred to the use of the Röntgen rays. H. v. Salis (*Münchener medizinische Wochenschrift*, November 18, 1913).

Relation of the Rate of Absorption of Epinephrin to its Glycosuric and Diuretic Effects.—Subcutaneous injections of epinephrin are, in contrast with its behavior in the production of its other effects, more favorable to the production of glycosuria (in rabbits) than intramuscular injections; the failures are fewer and the quantities of dextrose in the urine usually larger. In general, as regards the stimulation of diuresis by epinephrin, a subcutaneous injection exerts usually a greater effect than an intramuscular one. Subcutaneous injections of a certain dose of epinephrin distributed over several areas are far less effective than the administration of that dose in a single injection. They fail frequently to produce any glycosuria; the quantity of dextrose in the urine, when present, is less, and the quantity of urine generally diminished. Thus, apparently, the more slowly injected epinephrin reaches the blood, the greater is its effect in producing glycosuria, and generally, also, the greater its diuretic action. I. S. Kleiner and S. J. Meltzer (*Journal of Experimental Medicine*, August, 1913). * * *

Use of Pituitrin in Spontaneous or Operative Hemorrhage in the Respiratory Passages.—The author has become convinced that pituitrin is of considerable value in hemorrhage in the respiratory passages, both as prophylactic and for curative purposes. The drug was used in 9 cases of hemorrhage after inferior turbinectomy, uni- or bi-lateral; in 2 similar cases as prophylactic, and also in 5 cases of epistaxis, in hemoptysis, and in purpura hemorrhagica. A single injection of 8 minims (0.5 c.c.) nearly always brought about arrest of moderate hemorrhage in average cases within ten or fifteen minutes. Where the first injection fails, a second subcutaneous, and later, if necessary, a third intramuscular, injection may be given. For preventive purposes the author has found it advantageous in intranasal operations to administer an injection of 8 minims (0.5 c.c.) fifteen minutes before the operation. The resulting hemostasis and vascular hypertension persist for about twenty-four hours. Citelli (*Zeitschrift für Laryngologie, Rhinologie, und ihre Grenzgebiete*, vi, 4; *Revue hebdomadaire de laryngologie, etc.*, February 14, 1914). * * *

Relation of the Leucocytic Bacteriolysin to Body Fluids.—An extract of horse leucocytes is strongly bactericidal when dissolved in distilled water; it has considerable bactericidal power when dissolved in physiologic saline; but it loses its bactericidal properties when mixed with blood-serum or with normal or pathologic tissue fluids.

About half the antibactericidal action of blood-serum is due to the serum colloids, about a quarter to the neutral serum crystalloids, and a quarter to the diffusible alkalies. Diffusible acids have no antibactericidal acids.

The addition of boric acid to an inactive mixture of leucocytic extract and serum or other body fluid occasionally restores part of the original bactericidal power, but never more than a small fraction of that power. W. H. Manwaring (*Journal of Experimental Medicine*, April, 1913).

Infection of the Hypophysis by Way of the Sphenoid Sinuses.—The author presents a specimen of sella turcica which he had found filled with seropurulent fluid. The pituitary fossa communicated through a large perforation with the sphenoid sinus, which was likewise infected. The hypophysis itself was relatively but little affected, showing merely a slight degree of inflammation. This was due, on the one hand, to the fact that tissue resistance in the pituitary is rather marked, and, on the other, to the nature of the orifice of communication, which appeared to represent a persisting congenital abnormal opening. Another similar large opening was present in the posterior wall of the sella. This observation shows the possibility of infection of the hypophysis by a route hitherto but little or not at all recognized. Léri (*Société de Neurologie*, Paris, November 13, 1913; *Paris médical*, November 29, 1913).

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Epinephrin in Whooping-cough.—Report of a case illustrating the good effects of epinephrin in whooping-cough, as first advocated by G. V. Fletcher. The case was that of a delicate child of 7 years in whom pertussis was complicated with bronchitis, which was becoming more and more severe. The child had been ill for six weeks when the author began with the administration by mouth of 3 minims of 1:1000 epinephrin solution every four hours. Almost immediately a marked diminution in the severity and frequency of the paroxysms was noted. The author was soon able to limit the administration of the drug to three times a day, and continued it thus for three weeks, at the end of which time the child had completely recovered from the cough, and had steadily improved otherwise, there being a total disappearance of the anemia and wasting produced by the persistent vomiting. W. J. Lord (*British Medical Journal*; *Medical Record*, August 30, 1913).

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Pituglandol in the Treatment of Placenta Previa.—The author believes he has saved the life of some children and spared the mothers considerable loss of blood in cases of placenta previa by the use of pituglandol. In the marginal variety he injects 2 c.c. of the preparation and immediately punctures the membranes. In the central variety, depending upon the extent of dilatation, the injection follows version or the introduction of the metreurynter. The latter is generally expressed spontaneously in one-half hour, whereupon version may be rapidly performed. Another injection of pituglandol is then given, in order to induce spontaneous birth of the child. Piero Gall (*Zentralblatt für Gynäkologie*, March, 1913).

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Fish Diet and Iodine Contents of Thyroid.—The observation that a fish diet increased the iodine content of a dog's thyroid was made some time ago. The author states that definite evidence has been obtained that large quantities of iodine are constantly present in the thyroid in some species of salt-water fishes. The largest amount was found in the thy-

roid of *Scyllium canicula* (dogfish), and in one case much more iodine than in any thyroid previously reported upon. The research suggests that fish thyroid would be a valuable therapeutic agent, and that the iodine value of the diet plays an important part in determining that of the gland. A. J. Cameron (Biochemical Journal, October, 1913).

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Suprarenin Treatment of Heart Weakness in Pneumonia.—The author presents in detail the clinical history of a male domestic aged 32 years suffering from pneumonia. His life was being despaired of, and he had cyanosis, a temperature of over 105° F. (40.8° C.), a pulse rate of 140, and respiration rate of 58, when the author bled him to the extent of 10 ounces (300 c.c.)—the blood being observed to be very thick—and injected subcutaneously 1 pint (500 Gm.) of saline solution to which 8 minims (0.5 c.c.) of 1:1000 suprarenin solution had been added. Ten minutes later the patient's condition was vastly improved, and recovery soon followed. Lonhard (Deutsche medizinische Wochenschrift, November 2, 1913).

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Operations on the Hypophysis Cerebri.—The intracranial methods of reaching the pituitary, viz., the subtemporal or frontal routes, as well as the buccal method, all of which are attended with considerable risk, need not be considered. The transsphenoidal method of Schloffer and von Eiselsberg has as many supporters as the inferior nasal route (Kanavel and Cushing) or Hirsch's modified procedure. The latter, according to collective statistics, shows the lowest mortality, while Schloffer's procedure exhibits the highest. Of great importance are exact Röntgen-ray examination, precise removal of the turbinates and ethmoidal cells, prophylaxis of coryza and catarrhal disorders, and preparation with hexamethylenamine. M. Moritz (British Journal of Surgery, October, 1913).

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Epinephrin Treatment of Pernicious Vomiting in Pregnancy.—The various theories of the origin of pernicious vomiting in pregnancy can be placed in three groups: (1) Reflex theory; (2) nervous theory, and (3) toxic theory. The latter theory is considered valid by the author. Pregnancy leads to increased functional activity of the adrenals, which contributes to the processes of systemic defense. When this increase of adrenal function fails to occur, vomiting appears. In such cases the administration of epinephrin is, therefore, indicated. This agent is noxious neither to the mother nor the child. It acts rapidly and arrests the vomiting. Pedro Valle (Cronica medica; Revue de thérapeutique médico-chirurgicale, January 1, 1914).

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Menorrhagia in Hyperthyroidism.—Attention called to excessive menstrual flow as a symptom of hyperthyroidism. Usually, on questioning, the patient will say it is normal, but on further questioning one will

generally find it to be prolonged to five or even ten days, and abnormally free. In fully 85 per cent. of the author's observations he found this menorrhagia. It is usually not painful. Often the menorrhagia is blamed on venereal excesses, when the excesses and menorrhagia are both but symptoms of a hyperthyroidism. From a limited number of observations, the author deems hyperthyroidism a factor in the causation of some abortions. W. H. Good (*Archives of Diagnosis*, January, 1914).

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Effects of Pituitrin on the Child.—The rate of the fetal heart beat may be retarded after pituitrin injection. The drug may act harmfully in two ways: By rapid successive contractions continually compressing the placenta, leading to defective aëration of the fetal blood, and by passage of the drug directly into the fetal circulation, exerting a cardiovascular action. The author mentions a case of breech presentation in which he gave 2 injections of 0.5 c.c. within two hours. After the second injection, rhythmic contractions developed, and a normal delivery quickly followed. The child was born asphyxiated, however, pulsation being very slow and the respiration much retarded, and death supervened in half an hour. The autopsy of the child revealed nothing abnormal. Spaeth (*The Antiseptic*, October, 1913).

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Epinephrin Content of Adrenals in Various Forms of Experimental Poisoning.—The colorimetric method of detecting epinephrin, in particular Zanfognini's procedure, was employed by the author in these experiments. He was able to demonstrate clearly a diminution of the epinephrin in the adrenal medulla in dogs poisoned with phosphorus, corrosive sublimate, and arsenic. The manner in which this loss in epinephrin takes place is not clear; the author thinks it possible that there may be a direct toxic action on the chromaffin cells, with consequent secretory paralysis. Rossi (*Archives italiennes de biologie*, lvii, 132; *Nouveaux remèdes*, January 24, 1914).

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Cystic Goiter.—Case of cystic goiter with palpitation of the heart, dizziness, and feet swollen over the shoetops. The patient became anemic, very irritable, and developed a tendency to melancholy. The only symptom which brought her to operation was that of pressure. Until she submitted to operation, the heart action was well controlled with thyroid extract and iodide of potassium, but the anemia did not improve. After the cystic goiter was removed all these symptoms disappeared, the anemia and breathing improved, and she felt much better. John Horni (*Long Island Medical Journal*, March, 1914).

* * *

Action of a Lipoid Obtained from the Ovary.—Experiments showing that a lipoid extracted from ovarian tissue by the author, injected subcutaneously in animals for two or three months, exerts a stimulating action almost exclusively upon the uterus and ovaries, the weight of which

may be increased as much as fourfold. This lipoid has no action on the adrenals, kidneys, heart, liver, or spleen. It slightly excites the thyroid. Its effect on growth was studied in young female animals. It was found to increase the rate of growth considerably. H. Iscovesco (Société de Biologie, Paris, November 8, 1913; Presse médicale, November 19, 1913).

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Experimental Production of Vasodilator Substances.—Repeated injections of suprarenin in rabbits do not induce the formation of antibodies. Intraperitoneal injections of extracts of guinea-pig adrenals, however, bring about in some rabbits the formation of substances—previously not present—which exhibit a vasodilator property in frogs prepared by the Loeven-Trendelenburg method, and which inhibit the action of suprarenin, with which they combine to form substances the nature of which is as yet unknown. It is justifiable to consider these substances as fulfilling the rôle of antibodies with respect to suprarenin as an antigen. J. Halpern (Archiv für experimentelle Pathologie und Pharmakologie, October, 1913).

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Functional Disturbances of the Adrenals in Rabies.—Extracts of the adrenals of hydrophobic animals were tested as to their physiologic activities by the author. The effects of the extract on the blood-pressure differed according to the stage of the disease at which the adrenals had been obtained. Other influences of unknown nature were also observed to be operative. Toward the end of the disease the adrenal extract always proved inactive. A similar result was noted as regards the action of the extract on the heart. R. Porak (Comptes-rendus de la Société de Biologie, Paris, 1912; Zentralblatt für experimentellen Medizin, June 15, 1913).

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Pituitary Extract in Threatened Mammary Abscess.—While the employment of pituitary extract in the condition mentioned is not commonly thought of, experience leads the author to consider the drug very useful. It has been experimentally shown that within a few minutes after the injection of pituitary extract the flow of milk is much increased, owing to contraction of the muscular fibers of the lacteal duct walls. When these ducts contain pus and are blocked, this action is a useful one, and in two or three instances the author has found a threatened abscess to undergo absorption soon after giving pituitary extract. J. A. Henton White (Practitioner, September, 1913).

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Gold Chloride Test for Epinephrin.—Epinephrin yields a red color with chloride of gold. Upon the basis of his investigations with epinephrin in solution in distilled water, in tap water, and in distilled water to which 0.7 per cent. of sodium chloride had been added, the

author concludes that gold chloride in a 1:300 solution in distilled water will yield a clear reaction with 1 part in 500,000 of epinephrin. Gautier (*Comptes-rendus de la Société de Biologie, Paris, 1912; Zentralblatt für experimentellen Medizin, June 15, 1913*).

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Thyroid Treatment in the Vomiting of Pregnancy.—The author administered 1½-grain tabloids of thyroïdin in several cases of hyperemesis gravidarum, and observed a complete curative effect. In 1 case vomiting was observed to recur after cessation of the medication, but yielded again when the treatment was resumed. A noteworthy observation was that, contrary to the usual accelerating effect of thyroïdin, the pulse rate was decidedly slowed by it in these cases. Koreck (*Deutsche medizinische Wochenschrift, No. 43, 1912; Zentralblatt für experimentellen Medizin, June 15, 1913*).

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Exophthalmic Goiter of Traumatic Origin.—The author reports 3 cases of traumatic Basedow's disease, of which 1 showed the condition fully developed and 2 "frustes" forms of it. The disease came on one-half to several years after physical traumatism combined with psychic traumatism. The prognosis is not favorable in these cases; not much is to be hoped for from operative treatment. F. Dyrenfurth (*Deutsche medizinische Wochenschrift, No. 47, 1912; Zentralblatt für experimentellen Medizin, May 30, 1913*).

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Anomalous Situation of Adrenal Glands.—The authors report having found, upon post-mortem examination of a tuberculous patient, both adrenals situated within the capsules of the kidneys, with the tissues of which they appeared, even microscopically, to be completely fused. This finding is of interest in connection with the pathogenesis of hypernephromatous tumors. J. Rebattu and A. Goyet (*Lyon médical, August 17, 1913*).

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Influence of Epinephrin on the Action of Certain Drugs.—Epinephrin prevents the stage of excitement in the anesthesia brought on by chloralose. It also overcomes the convulsions induced under certain conditions by dyes such as thionin and methylene blue. J. Gautrelet and P. L. Briault (*Société de Biologie, Paris, July 12, 1913; Paris médical, July 26, 1913*).

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Relation of the Thyroid Gland to Marasmus.—There are two forms of atrophy of the thymus gland, primary and secondary. The organ has an undoubted relationship to nutrition. In a large number of fatal cases of marasmus in infants the author never failed to find what appeared to be primary atrophy of the thymus. Ruhräh (*Lancet, August 8, 1913*).

Department on General Medicine

Original Articles

A RÉSUMÉ OF MODERN OBSTETRICAL PRACTICE.*

By EDWARD A. SCHUMANN, M.D.,

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THE advance in method in the practice of obstetrics has brought in its train many variations in technique and differences in procedure for meeting a given indication, but opinions are gradually becoming well defined and a rather generally accepted system of practice has been developed. The management of obstetric patients may be divided into the care of the normal case, with its constant possibility of complications, and the treatment of the case known to have some pathologic element in its progress. Before a patient can be placed in either of these groups, it is necessary that the size of the pelvis be known, the metabolic activities of the body be investigated, and the general organic condition of the patient be understood.

The size of the pelvis is determined by direct measurement with the pelvimeter. From time to time many elaborate instruments have been devised for the purpose of measuring accurately those pelvic axes most difficult of reach, but for all practical purposes a simple instrument, as that of Collyer, used to measure the distances between the iliac crests, the iliac spines, the trochanters, and the external conjugate, together with a manual determination of the true conjugate, will give sufficient information as to the capacity of the pelvis.

Such measurement is of the greatest importance, as the subsequent conduct of the case depends largely upon the presence or absence of bony contraction or deformity. The specialist in obstetric work sees case upon case in which he is called upon to complete an attempted forceps delivery where the relative disproportion between the size of the fetal head and the pelvic outlet is so marked that delivery of a viable child is impossible and severe injury of the maternal soft tissues inevitable. In by far the greater number of such cases, had proper pelvic measurements been recorded early in the course of the pregnancy, the induction of premature labor might have resulted in the birth of a living child, with little or no maternal morbidity.

A careful and systematic vaginal examination should always be made at some time within the first four months of pregnancy. This is not only necessary in connection with the use of the pelvimeter to determine the diagonal and true conjugate, but should be undertaken for the purpose of securing information as to any lesion of the genital tract which might inter-

* Read before the Germantown Branch of the Philadelphia County Medical Society, October 30, 1913.

fere with the normal course and termination of the pregnancy. Fibroid tumors, retroverted and adherent uteri, with their prospects of later incarceration of that organ under the promontory of the sacrum, and other diseased conditions may in many instances be corrected if the true state of affairs be understood early in the pregnancy.

At this time it is well also to make a careful physical examination of the patient with reference to her ability to withstand the strains and stresses of pregnancy and labor. Certain organic lesions which in themselves give little or no trouble may prove serious complications in labor. For example, mitral stenosis with good compensation and a well-acting heart muscle may, in the presence of the increased strain thrown upon that organ in the course of a long and difficult labor, lead to an acute cardiac dilatation, with its very serious, not to say fatal, consequences.

An incipient tuberculosis may, and indeed generally does, make exceedingly rapid inroads upon the vitality of the pregnant woman. Let me here state that I consider early tuberculosis in a young woman a positive indication for the termination of pregnancy if the pulmonary lesion be discovered prior to the fourth month. This is a somewhat radical statement, but I feel it to be the only proper and justifiable one, and note that it has gained more and more adherents in the obstetric profession. After the fourth month the hemorrhage and shock of an induced abortion are so great that the benefits are minimized, and the end-result is probably no better than if the pregnancy were permitted to go to term.

Lesions of the kidneys are so generally considered of paramount importance that the routine examination of the urine at regular intervals is universal and requires no comment here.

The conduct of normal labor itself has not been much improved upon in late years. The importance of absolute asepsis and the more general use of rubber gloves are steps forward. In general, the practice of obstetrics has taken its proper place as a department of surgery rather than a branch of the practice of medicine.

The operation of episiotomy is one which, I think, should be more generally popularized, as it unquestionably diminishes the trauma occurring in a severe laceration of the perineum. The operation consists in the deliberate free incision of one or both vaginal sulci on either side of the rectum, when severe laceration appears inevitable. By this means the vaginal outlet is increased in size by fully as much as it would be from its laceration by the descending fetal head, but the mutilation is immeasurably less. The repair of a clean, sharp-edged wound is a very different matter from an attempt to coadapt torn and ragged muscles and fasciæ. The operation may be further improved by placing the sutures of silkworm gut or catgut immediately after the incisions have been made and leaving them untied, to be fastened when labor is completed. By this maneuver the cut surfaces are brought together in perfect apposition.

The use of extracts of the pituitary body in cases of inertia uteri has become widespread within the past few years. This drug is often of great

value, but must not be used before complete dilatation of the os has been secured. Its effect upon blood-pressure must also be remembered.

THE MANAGEMENT OF COMPLICATED LABOR.

Contracted Pelvis.—Less general advance, I believe, has been made in dealing with this situation than in any other branch of obstetrics. Given a pelvis with a true conjugate of from 8 to 9.5 cm. in a case wherein pregnancy has been permitted to go to term, what are the possibilities of spontaneous birth, delivery by forceps, or craniotomy, and what is the prognosis as to fetal mortality and maternal morbidity?

Spontaneous birth does occur, but at best in not more than two-thirds of the cases. (From my own observation I should challenge these figures, one-half or even two-fifths being a fairer estimate of the spontaneous births in the moderate degrees of pelvic contraction.) Such births always follow prolonged and exhausting labor. The other third (or half or three-fifths) of the cases suffer from mutilating forceps operations, or the infants are destroyed by craniotomy.

It is our obstetric duty to save this $33\frac{1}{3}$ per cent., and that saving may best be accomplished by the intelligent induction of premature labor at a time when the child is small enough to pass through the contracted pelvis and yet is sufficiently mature to maintain its strength.

It is commonly taught that induction of labor should not be practised upon primiparæ, the theory being that, since spontaneous births do occur even in severely contracted pelvises, every patient should have the benefit of at least one test of labor. I cannot agree with this teaching, for, since we may obtain accurate data as to the relative size of the fetal head and the pelvic outlet, a proper induction of labor in the selected cases may save the mother much agony, traumatism, and the disappointment of having her efforts rewarded by a dead baby.

As to the time for inducing labor, it varies with the individual case. Personally, I have performed this maneuver eight weeks before term with a happy result. Four to five weeks is a safe average.

Before determining upon induction of labor the pelvic dimensions should be well understood and the duration of pregnancy carefully estimated. In the latter connection I find McDonald's rule of great value if it be taken in connection with the details of the history and the physical aspect of the case. This rule, in brief, states that the height of the fundus uteri from the symphysis, measured along the anterior abdominal wall in centimeters, and divided by the constant 3.5, equals the duration of pregnancy in lunar months. For example, the height of the fundus at term is usually 35 cm. Divided by 3.5, this gives ten lunar months as the duration of the pregnancy. The relative size of the fetal head must now be determined. This may be done by any of the methods recommended by various authorities; but in general, a careful fitting of the head into the cavity of the pelvis at the end of the seventh month is sufficiently accurate for all practical purposes.

As to the method of inducing labor, I prefer the bougie, especially one which I have had made and which acts not only as a plain bougie, but also as an elastic bag. The latter extends the entire length of the ovum, and may be distended with water to any desired degree. With this bougie in position, labor usually sets in within from five to seven hours after its insertion. The technique is simple. Under the most scrupulous aseptic precautions the cervix is gently dilated, if necessary, either with the fingers or with a Goodell dilator. The membranes being unruptured, the collapsed and closely folded bougie is inserted between the fetal membranes and the uterine wall until the fundus is reached. The instrument is left in place for an hour or two, and then slowly distended with sterile water. Labor develops slowly and usually with periods of cessation of contractions, and must frequently be terminated by a low forceps operation. This, however, is usually easy owing to the gradual onset of labor and the small size of the fetal head, with the overlapping of the cranial bones that so readily takes place in premature children.

Many a child will be spared and many a woman saved from the distress and disability following a severe and tedious forceps delivery with laceration of the birth canal when the medical profession comes to a more general understanding and employment of the induction of premature labor.

As for *lacerations* of the birth canal, I consider the intermediate operation, performed several days after the birth, far superior to the immediate one, when the injury is severe. The swelling, edema, and bleeding in a recent tear militate greatly against an anatomic repair, and the results of such operations are frequently distorted, poorly closed perinei. If the operation be postponed for a few days, the patient is given an opportunity to recover from the shock and exhaustion of labor, the uterus and vagina have lost their swollen and edematous condition, and hemorrhage has ceased. The torn structures may now be well coadapted and a satisfactory repair made.

Placenta previa and its treatment has always been a debated subject among obstetricians. To my mind the indications are clear. Wherever the facilities are at hand, an elective Cesarean section is the treatment of choice. This statement must be modified in so far that section is not advocated when the patient is anemic and shocked from repeated hemorrhages, or where there is a possibility of infection from many vaginal examinations, or where the placenta previa is of the lateral or marginal variety. Under these conditions treatment by version and extraction, if the cervix is dilated, or if this is not the case dilatation with an elastic bag, is productive of the best results. On the other hand, in the severe cases of complete placenta previa, diagnosed before hemorrhage becomes violent, the elective Cesarean section will greatly decrease fetal and maternal mortality. These are always surgical cases, to be treated in the hospital wherever possible.

Eclampsia presents no especially new features from the clinical side. Obstetricians are generally favoring the opinion that the essential measure in the treatment of eclampsia is the reduction of blood-pressure, both by the

use of drugs and by rupture of the membranes, excretion being meantime stimulated by all possible means.

A word may well be added with reference to the extraperitoneal Cesarean section practised by Sellheim and now being popularized in this country by Hirst. This is a procedure of the greatest merit, both from the theoretical and practical viewpoints. It consists, in the first place, in incising the parietal peritoneum through the usual median incision, but one made lower down than in the classical Cesarean section. The peritoneum covering the anterior surface of the uterus is also incised, and stripped slightly free from the uterus, and the cut edges of the parietal and visceral peritoneum are then united by suture. The portion of the uterus to be opened is thus entirely excluded from the general peritoneal cavity. The organ is next incised, the child and its membranes extracted by forceps, and the wound closed in the usual manner. Recovery after this operation is strikingly smooth and uneventful, and the dangers of infection are greatly decreased. The operation should not be practised, however, in the presence of placenta previa, for the reason that, the uterus being practically excluded from the operative field, there is no method of controlling possible hemorrhage after the delivery.

In conclusion, I may state that the main objects in the presentation of this brief outline have been to emphasize the necessity for the routine use of the pelvimeter in obstetric practice, and to urge the more general adoption of the induction of premature labor in the treatment of moderate degrees of pelvic contraction.

NOTE ON THE ADMINISTRATION OF DIGITALIC ACID, THE ACID RESIN OF DIGITALIS PURPUREA.*

By LOUIS KOLIPINSKI, M.D.,
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(Concluded from the April issue.)

Digitalic acid completely replaces the use of digitalis, both in its pharmacopeial preparations and the various advertised proprietary and secret preparations. The following cases will demonstrate most of the requisite qualities inherent in digitalis which it possesses—such qualities as the exigencies of various serious conditions demand of a successful remedy:—

CASE 10. Multiparous female of 60 years. For many years hysterical. Formerly migraine, succeeded by facial neuralgia of one side, then of the other, and continuing for nine years. Passed off since a general massage treatment two years ago for about two months.

Neuritis of the right ulnar nerve with herpetic eruption on inner side of palm, and little and ring fingers. Recovery in a few weeks.

* Read at a meeting of the Therapeutic Society of Washington, D. C., February 7, 1914.

Next, pruritus vulvæ of acute intensity, requiring a change of applications in local treatment every day or two, as the soothing qualities of the remedies seem to be lost after that time. The integument of the labia is dry, swollen, and reddish. The itching is very intense. She rolls upon the bed, screams out, cannot sleep, wishes for death. She cannot describe her state or converse, and only cries out: "I cannot stand it." Her behavior and manner is acutely hysterical. The intense itching appears in paroxysms, in the intervals between which she sleeps; but her sleep passes into a stupor.

Fever is detected, with temperature of 102° F. Physical examination of the chest discloses a heart slightly dilated and of enfeebled action; second aortic sound accentuated, pulse slow and of low tension; posteriorly in the interscapular regions, crepitant and subcrepitant râles and small areas void of air,—an incipient bronchopneumonia. This lesion subsides after two days under treatment, a slight occasional moist cough remaining and the temperature becoming normal, then subnormal. The stupor continues, the eyelids are closed, and she cannot be aroused by those about her; she weeps at times, but utters no articulate sound. The pruritus, at first vulvar, now becomes anal and then general. The vulva is red and angry, partly due to the friction and scratching, although her hands are constantly gloved. The anal region becomes moist, and a diffuse intertrigo is visible. At this time, the general pruritic stage, an urticaria becomes fully developed, but without vesicle formation. The wheals are large, yellowish white, and unusually indurated and leathery to the touch. They are found about the neck, forehead, right cheek, and about the thighs, arms, and trunk. The itching is less intense, but the stupor remains. The reflexes are slightly increased; the eyelids closed; the pupils not dilated, contracting in the light. From the puncture of the skin with a hypodermic needle she cries out sharply, more so from the painful sensation of one fluid injected than from another. Bowels loose; no vomiting. Two nightly attacks of right-sided epistaxis, most of the blood being swallowed and coloring the feces for some days. Urine normal. This phase of stupor was considered in the treatment as hysterical pseudomeningitis. The feeble heart impulse, slightly increased area of dullness, and accentuated second aortic sound led one to assume that if the heart weakness did not play a direct rôle in the origin of the sickness, it might play an important rôle in the recovery of her health or a persistence of the malady. The various local treatments recommended in books for pruritus were tried, and each failed after a day's use. Two local anesthetics were selected for hypodermic use, to mitigate the paroxysms of itching. The first was $\frac{1}{16}$ grain of morphine sulphate, the other a 1 per cent. solution of quinine and urea hydrochloride. Strange to note, the effect of the morphine was much the better, causing the pruritus to vanish and bringing on sleep. The patient had previously stated in her medical history that morphine as hypodermic injection caused in her nausea and vomiting for several days. The second anesthetic injection did not lead to such an effect as would lead one to recommend its further trial in a case of this kind, for anesthesia did not occur until after the fourth or fifth half-hourly repetition of the dose, the itching returning at the same hour the next day. The greater labia, into which the injection had been made, became indurated and a vulvar abscess on the right side later required incision. During this time, and until returning consciousness allowed her to converse rationally, she was given each day $\frac{1}{32}$ grain of the digitalate of sodium hypodermically. As long as the stupor continued this injection resulted in acute cries for a few minutes; later, upon her becoming rational, the cries ceased. After the fifth day of this treatment, the resin of digitalis was substituted,— $\frac{1}{33}$ grain by the mouth. Four days later the acute pruritus of vulva and anus seemed about to reappear, as at the beginning. The patient was again lapsing into stupor, her nights were highly restless, and the itching intense. She refused to take any more medicine. The temperature remained normal. It was necessary to renew the treatment with increased activity. Hypodermic use of the digitalate was resumed and ice-cold compresses of bicarbonate of sodium solution, 2 ounces to a gallon of water, were applied for half an hour four or five times a day to the sacrogluteal regions, lower abdomen, pudendum, and the interior surface of the thighs. The digitalate now did not produce the acute cries of the

former stage. The cold compresses were born without complaint, and had a very evident effect in stopping the itching and promoting sleep. The case showed marked improvement each day, and after the ninth day, at the patient's request, the hypodermic treatment was omitted on account of the acute pain resulting therefrom. The cold compresses likewise were dispensed with, as the pruritus no longer returned.

In this case the digitalate, used 20 times (often in half-doses) or more, caused no induration, infection, or abscess, and the pain experienced at the time of introduction was probably of great utility in arousing this patient from her acute hysterical lethargy and in bringing about rapid recovery.

CASE 11. Male, 39 years, married, short and thick-set. Clerk; at one time an athlete. Dipsomania for some years. Excessive use of tobacco. Heart impulse weak, heart sounds faint, valves intact, pulse tension rate weak, neither slow nor rapid. Probably beginning fatty degeneration of heart. Liver slightly enlarged. Urine free of albumin and bile. Alcoholic neuritis of legs (pseudotabes). Memory weak, much egoism, outburst of rage and violence. Alcoholic tremor. The sodden, stolid, congested face of a drunkard. After a week of the digitalis resin, manner composed and reserved. No longer irritable. Facial expression almost normal.

CASE 12. Saloonkeeper, 50 years, chronic alcoholism. In bed with acute alcoholic gastritis. Constant vomiting. Sleepless, very restless; hoarse voice, tremor of tongue and hands, incipient delirium tremens. Digitalis resin, first and second days, 2 doses; third day, 1 dose. Tremor gone in a day, and the patient holds a small object with steady hand. Recovery on third day.

CASE 13. A proofreader, 50 years, short and stout. Obesity from beer drinking. Weight 175 pounds. Mitral regurgitation the result of articular rheumatism. Hypertrophy and dilatation of the left ventricle, dyspnea, and precordial pain from walking. Digitalis and salines given, with mixed milk diet. Takes digitalis well. Weight reduced to 160 pounds. Walking becomes easy. As result of an alcoholic debauch, acute gastritis and tremor appeared. Digitalis resin rapidly relieved him. He thinks the resin acts more quickly than does the powder.

CASE 14. A farmer's wife, 5 feet, 48 years, weight 110 pounds. Menstruated last a year ago. Highest weight when a girl, 120. Atrophic nasal catarrh. Twelve children nursed at the breast. Persisted in doing all the housework during her married life, when able to be up. Presents the appearance of a worn, wrinkled, decrepit woman, this appearance being heightened by a dorsal kyphosis. For thirty-three years, has had migraine-like attacks of headache, with mucous vomiting. Confined to bed one or two days. Heart regular; aortic and mitral stenotic murmurs; pulmonary second sound loud and sharp. Ventricles slightly dilated, the right apparently more than the left. For six or nine months, dyspnea on walking. At night, cardiac asthma. As this was a headache due to fatigue from heart weakness, her industrious home life had amply perpetuated the headache for thirty-three years. Took digitalis resin for seven months. Afternoon rest and discontinuance of the laborious part of housekeeping. The headache ceased entirely. The appearance changed to that of a comely matron.

CASE 15. A farmer, 51, single. Night pollutions once or twice a week. Is dyspeptic, languid, disinclined to work, and exhausted by summer heat. Aversion for female society. Weakened heart: tones faint, impulse feeble, heart slightly enlarged, valves intact; probably from masturbation. Digitalis resin given for months. Physical and mental vigor much improved. Heart sounds and impulse more distinct and stronger.

CASE 16. A clerk of 56, height 5 feet 6 inches. For years, mental and physical lassitude and insomnia, much emaciation, chronic enteritis and phosphaturia; weight once 112 pounds, later increasing to 138 and 140 pounds. The man is chaste and moral. His debility is much increased by night pollutions every week or two. Weakened heart: no enlargement, impulse feeble, tones very faint. Pulse very regular. Aortic stenosis, but not distinct. The digitalis resin reduces the emissions to one or two a month. Much improvement in mental and physical strength and endurance.

CASE 17. Female, 54, medium height, well nourished, 6 children. In her confine-

ments, prone to heavy uterine hemorrhage. Weakened heart, of many years' standing, probably fatty; valves intact, feeble impulse, pulse weak, small, and slow. Heart not enlarged. No dyspnea, but liable to syncope and faintness. A right pleuropneumonia begins. From the severe pleural pain, attacks of fainting. Digitalis resin twice a day, later once a day for five or six weeks. The pneumonic inflammation ceases in three days, relapses, and fever again disappears in three or four days. Slow but steady recovery.

CASE 18. Unmarried woman, 51 years, 5 feet 6 inches. Once had a good constitution. Thirty years ago gonorrheal pelvic inflammation. Weight 130 pounds; five years ago it had risen to 168 pounds. Many years of sexual excitement, illicit coitus, and much masturbation; highly erotic. To these causes was probably due the cardiac hypertrophy and dilatation. Three years ago, exhaustion from summer heat. Vertigo, nausea; unable to walk out of doors because of dyspnea. With cooler weather, the symptoms of enfeebled circulation did not abate. Breathless and speechless. On ascending stairs, syncopal waverings and much muscular exhaustion. Heart impulse weak and diffused; loud aortic regurgitant murmurs, less distinct when at rest. Milk diet and salines reduce weight from 168 to 132 pounds. Took digitalis and iron in single or double daily doses for three months. No toxic interruption. Digitalis resin thereafter in daily dose for nine months. Tone of circulation fully restored. No dyspnea. Tires easily from work or exercise. State otherwise normal.

CASE 19. Female, 46 years, a hard-working family mother. Weight 175 pounds. Metrorrhagia at times for a year. Face purplish red and swollen. Much shortness of breath on walking. Moist cough. Edema of legs. Had acute articular rheumatism. Gross mitral regurgitation, heart much dilated. Rest in bed, scant milk diet, and digitalis resin. Edema and hard breathing gone in two weeks. Loss of weight in that time, 5 pounds. Discontinues treatment.

CASE 20. Unmarried female, 49 years, 5 feet 5 inches, weight 120 pounds. Menopause. Slight left hemiplegia with partial aphasia; more paralysis in arm than in leg. Some dyspnea at night while confined to bed. Heart dilated; mitral regurgitation with stenosis. Milk diet and digitalis resin. Able to walk in three weeks. Speech restored in six weeks. She is able to work and seems fully restored.

CASE 21. Female, married, sterile, 5 feet 4½ inches, 52 years, weight 158 pounds. Menstruated last, fifteen years ago. Tertiary lues; syphilitic laryngitis. Suffers with vertigo, faintness, dyspnea on walking, and cardiac pains. At night, cardiac asthma, compelling her to sit up; edema of the ankles. Heart enlarged; both aortic and mitral stenoses. Digitalis powder relieves the breathing, but makes her nervous and excited. Sodium sulphate and phosphate daily reduce the weight in six months to 138 pounds. Takes the resin continuously for more than a year. Prefers it to the digitalis. In all this time heart acts well except upon one occasion when, after ascending many stairs, her breathing was disturbed for a single night.

CASE 22. A small woman of 76, 6 children, weight about 80 pounds, of a consumptive family. All her life frail and slender, skin pale, no sickness in many years except monthly migraine attacks. Complains of great weakness, vertigo, and syncopal attacks, in which she falls. Extremities cold; edema of feet and ankles. Heart sounds and impulse very faint, no cardiac enlargement; no anemic heart murmurs; pulse very feeble, regular, 68. Fatty degeneration of the heart muscle. Digitalis resin for many months. Feels well from its use. No vertigo, syncope, or edema.

CASE 23. Female, 48 years, medium height, highest weight 200 pounds, 4 children. Menopause. Chronic bronchitis for five or six years, with bronchiectasia. Dilated heart ventricles. Cough of great violence, lasting often thirty to forty-five minutes, especially in the morning; mucopurulent expectoration, a pint or less daily. From cough has had pulmonary hemorrhage. Never fever. No tubercle bacilli. Increasing dyspnea as heart becomes more dilated. Valves not affected, no edema. The heart enlargement is very apparent after the violent cough, when the lips and nails turn black. Often night sweats. Has lost 80 pounds or more. Respiration 28, at best 24. Digitalis acted

well, but, the dyspnea increasing, the resin was used instead, for ten months or longer. Never any gastric disturbance. On several occasions, when she was exhausted from want of sleep and food, dyspnea and cough appeared; she was then given double daily doses, with marked benefit. The pulse was kept steadily at 72 by the use of the drug.

CASE 24. Male, plumber, 35 years, 5 feet 9 inches, weight 210 pounds. For years a drunkard. Heart enlarged, probably fatty; valves intact. Typhoid fever begins with incessant vomiting from alcoholic gastritis. Mind clear and anxious. After seven days of fever the pulse becomes rapid and weak, so that to avoid collapse or heart-failure the digitalate is begun. One twenty-fourth grain is given in the outer side of the right leg daily. Evening pulse 120, morning pulse 144. One-half hour after the injection, violent alcoholic delirium; total insomnia. Morphine aggravates excitement. Morning pulse 144, evening pulse after digitalate 120. Next day, morning pulse 120, evening 108. Morphine hypodermically has no effect on the sleepless, violent state. Sodium bromide is without effect. Hyoscine, $\frac{1}{100}$ grain, injected, brings on sleep and clears the mind. Morning pulse 108, evening pulse 96. Pulse good, but irregular. A long and severe relapse from eating solid food too soon made necessary a daily injection of the digitalate for twelve days. In convalescence, legs became edematous after patient left his bed.

CASE 25. Male, 50 years, lives retired, many years free of labor and care. The obesity of overeating gained rapidly upon him until his weight was 270 pounds. For a long time, moderate dyspnea from exercise. With the approach of summer heat, he presented symptoms, partly of heat exhaustion, partly of heart exhaustion. Feelings of fainting and faintness; vertigo so severe that he cannot rise from a chair or leave his room. Insomnia; sensation of falling through the bed upon which he is lying. The heart on percussion is enlarged, whether from hypertrophy or fat is not certain, probably from both. The impulse is weak, as is the pulse, but regular and slightly accelerated. The valves close normally, but the mitral is not clear. Later, a simple mitral stenosis is detected, likewise a slight aortic stenosis. The subjective symptoms described continued throughout a summer, and he suffered much from depression of spirits and fear of death. The treatment consisted of a reduced diet, a daily saline purgative, and a single daily dose of powdered digitalis, 2 to $2\frac{1}{2}$ grains. Under this treatment his weight was reduced in seven or eight months to 210 pounds. He resumed his former life of sport and exercise. The various morbid sensations disappeared, in particular the dyspnea from exertion. This patient took digitalis powder daily for about six months without any sensation of disturbance. The resin was then given instead, and continued for eight or nine months. He was not able to perceive any difference in the action of the two. Both gave him a sense of vigor and easy and unconscious breathing. His preference later, however, inclined toward the resin.

CASE 26. Single female, 38 years, 5 feet 8 inches. Taken from school at 16 on account of physical weakness. Since then, semi-invalid; occasionally engaged in study, teaching, and household work. No hysteria, but timid from ill health, and very susceptible to the overeffects of drugs. Prone to bronchial cough, moist râles, and asthmatic breathing. Menstruates for a day at long intervals—six months to two years. Chlorosis as a girl uncertain. Has the appearance of incipient consumption, and a weight of 110 pounds. On a full milk diet the weight ascends to 155 pounds, with great improvement in health. Suddenly, dilatation of the heart, with cardiac asthma. Slow recession of the dilatation and dyspnea. Confined to bed for months. Much emaciation and weakness. With the use of digitalis powder and iron, some further improvement occurs, so that she is able again to leave her bed, be up, and occasionally to go out. The radial pulse is regular, accelerated when at rest, and unusually small. No jugular pulsation. Color pale; a look of exhaustion. She is not able to lie down by day longer than a quarter of an hour; her nights are passed in a sitting or at best a half-reclining posture, on three or four pillows. Occasionally, cardiac asthma at night and asthmatic wheezing and cough in the morning. Mammary glands almost masculine. Heart dullness increased to the left; apex beat to the left and impulse weak. Right ventricle not dilated; no epigastric pulsation. Heart sounds faint; occasionally mitral insufficiency

murmur. Diagnosis: Congenital small heart and aortic system. She is very susceptible to digitalis, which readily causes nausea. Digitalis resin used for many months; a double dose causes palpitation, cardiac pain, and more labored breathing at night. Digitalate of sodium hypodermically is, however, more efficient than the resin. The pulse becomes slowed to normal and the nights are very markedly bettered.

CASE 27. Single female, 28 years, 6 feet, weight 128 pounds, phthisical habitus, cold hands and feet. Congenital small heart and aorta. For some time, shortness of breath on walking up hill. The apex beat is weak; valves intact; contractions and pulse occasionally irregular or rapid. Subject to severe precordial and epigastric pains, coming on suddenly, generally at night. In such an attack the right ventricle is outlined as dilated. A daily tablet of digitalis resin is given. Patient neglects treatment after some weeks, as heart action causes her no further distress.

CASE 28. A young girl of 18 years, 5 feet 2 inches, weight 200 pounds. Two and a half years ago her weight was 133. Works in a candy store. A hearty eater, and daily partaker of the sweets she sells. Palpitation and oppressed breathing. Heart suddenly becomes insufficient. She is confined to bed with cardiac asthma and considerable edema of the lower limbs. Heart ventricles dilated; heart sounds normal, but very faint. Slight epigastric pulsation. No venous pulse in the neck. Pulse not rapid or irregular, but small and weak. Low milk diet, salines, and the resin allow her to return to work in two weeks; compensation fully restored. She gradually regains strength and former habits. The resin is taken for a year. Potassium iodide, desiccated thyroid, salines, and a restricted diet (not kept), all failed completely to reduce the weight, which continues at from 196 to 200 pounds.

CASE 29. Physician, 59 years, 5 feet 11 inches. At 21 acute articular rheumatism, from which he recovered after one year. His health before this had been good, his weight 160 pounds, and his vigor and endurance excellent. There was a gradual increase in weight with years, the maximum being 220 pounds. In an attack of influenza he had attacks of vertigo and fainting (weakened heart), from which he recovered. Five years later, circulatory compensation failed. Physical examination disclosed a dilated heart, probably from obesity, weak impulse, and irregular action. Both aortic and mitral stenosis. No albuminuria. Attacks of faintness and dyspnea after a walk or slight muscular effort. Cardiac asthma at night, but not severe. Considerable edema of the lower limbs, to the thighs. Treated with rest, sodium salines, reduced diet, and powdered digitalis, 2 to 2½ grains daily. The breathing is normal and the edema is lost. The digitalis is well taken, but occasionally omitted for a few days because of the nausea it produces after seven or eight days. The digitalis resin is given instead, ⅔ grain daily, in a single dose. The patient takes the resin daily for months. Heart compensation is fully restored. The weight falls in a year from 220 to 182 pounds. In his opinion, from the impression he had after having taken the resin a long while, the resin was better than digitalis powder in his case, as it never nauseated, and the invigorating sensation it produced was more quickly felt than that from digitalis.

CASE 30. Married female, 24 years, 5 feet 4 inches, married eight years, no child. Menstruation irregular. Six months ago, weight 168 pounds. Abdomen distended, much edema of the legs, dyspnea on walking and lying down at night; interfered with by oppressed breathing. Urine diminished; albumin and casts; almost anuria. Anæmic; face swollen; cardiac palpitation. Palpation and auscultation of abdomen shows an active pregnancy; free fetal motions; about seven months. She does not know that she is pregnant. The dropsy, oppressed breathing and very scanty urine require rest in bed, milk diet, digitalis resin, and saline purgation. With these the urine increases to 5 or 6 pints a day, the edema of the legs disappears, and the breathing becomes normal. Heart is enlarged from hypertrophy and dilatation; increased area of dullness, left and right; a gross mitral regurgitant murmur. Labor at term; forceps; speedy recovery. Nurses child a year. Albumin absent from urine in five or six weeks.

CASE 31. Single female, 42 years, 5 feet 7 inches; was overweight, 186 pounds; reduced in six months by treatment to 145 pounds. Is hysterical, emotional and sleepless,

easily fatigued, dyspneic from walking. Cold hands and feet. Twenty years ago, severe typhoid fever, with three relapses. Gangrenous bedsores with septicemia; recovery in a year. Heart area not enlarged; valves intact except aortic stenosis; heart sounds feeble and weak, 60 to 68. Fibroid myocarditis from the septic typhoid fever. Is suddenly stricken with chill, temperature 104.5° F.; nausea, vomiting, and diarrhea, with much tympanites. Marked exhaustion. Heart sounds not changed, even fainter than before. The weak pulse is 82, while the fever is 105° F. Quinine without effect. Leucocytes slightly increased. Widal reaction negative. Urine free of albumin. Her main complaint is a distressing feeling, as of impending death. Diagnosis: Ptomaine poisoning with heart weak from myocarditic change of the ventricle.

Is given the digitalate in a daily hypodermic injection of $\frac{1}{32}$ grain:—

First day. Morning temperature 101°, pulse 72 soft

Evening temperature 102°, pulse 82

Second day. Morning temperature 100°, pulse 82

Evening temperature 101.5°, pulse 72

The tension is better, the faintness not felt any more.

Third day. Morning temperature 98°, pulse 72

Evening temperature 100°, pulse 72

Fourth day. Morning temperature 97.8°, pulse 72

Evening temperature 99°, pulse 72

Fifth day. Morning temperature 98°, pulse 68

CASE 32. Bricklayer, 45 years, small and spare. On walking, short of breath, with asthmatic wheezing. Heart palpitates. Pulse weak and irregular; valves intact, heart sounds faint. Weak heart of myocarditis, in part due to tobacco, which he uses freely. Is impotent; erectile power abolished. Sounding shows no disease of urethra or prostate. Digitalis resin and disuse of tobacco relieves him of labored breathing in two weeks. He continues its use for two months. Returns three months later and declares himself cured.

CASE 33. A man, 76 years, spare habit, excessive user of tobacco; otherwise good habits. Arteriosclerosis from gout; heart irregular, pulse slowed; aortic stenosis. Chronic myocarditis from the gout, through the atheroma; urine normal. A small brain embolus; syncope, loss of speech, and paresis of left arm. Rest in bed for a week, when he is able to be up again. Stops willingly the use of tobacco. He is very forgetful, hears voices, and speaks to the absent as though present. Is tractable and friendly. The digitalis resin makes the heart contractions regular and his mind approaches its former state. Exercise does not cause fatigue and sleep is refreshing. He visits the seashore, although the anticipated benefit to his health is doubtful, and dies there within a day of cerebral apoplexy or a second brain embolus.

CASE 34. Married woman, 52, 2 children, 5 feet 5 inches, highest weight 177 pounds, present weight 160. Last menstruation three years ago. Attacks of angina pectoris for the past three months. First attack at night, mistaken for indigestion. The pain is behind sternum, into both arms. Some nausea and belching; the pain is also in the back between the shoulder-blades. The angina comes on also in walking more than a block or two and on ascending stairs, with panting of breath and oppressed speech. Pulse 72. Blood-pressure after digitalis, 140. Suprasternal aortic pulsation perceptible; aortic stenotic murmur; apex beat very faint; mitral and pulmonic sounds very faint; heart area slightly increased. Radial and temporal arteries soft. Diagnosis, fibroid myocarditis with sclerosis of coronary arteries. This cannot be traced to its cause. Sodium sulphate and phosphate to reduce the weight, and with them the digitalis resin in 2 daily doses of $\frac{1}{32}$ grain each. The pain on walking ceases. A single daily dose was not sufficient to accomplish this.

CASE 35. A clerk of 72, uses strong smoking tobacco freely, formerly a steady drinker of whisky. Somewhat suddenly, severe vertigo, so that he must remain in bed; transient ataxic and amnesic aphasia. Numbness and spasmodic stiffness of right arm

and hand, no arteriosclerosis. Heart beat irregular; area of dullness increased to left; aortic stenosis and mitral regurgitant murmurs; pronounced bruit de galop. For many years excellent health. Fibroid myocarditis, probably from the alcohol and tobacco. Rest in bed; milk diet, sodium sulphate and phosphate, and the digitalis resin. For a year his state is normal save a little hard breathing on mounting stairs. A return to the pipe and glass causes a return of vertigo and numbness in the right arm, which again yields to the same treatment. The resin was taken for twelve months without omission.

CASE 36. Married woman, 67 years. Has had heart disease for eight or nine years. Dyspnea from exertion. Paroxysmal tachycardia, lasting some hours. Both aortic and mitral stenosis. Ventricles dilated; heart action regular, but weak. Three years ago, was run over by a taxicab. Fracture left lower radius, and right leg, lower third, much bruised. In bed six months. Is now in her home, semi-invalid. Fibrous ankylosis of the right knee-joint; edema of legs, more of the right, which is also purplish from passive congestion. Urine normal. Is treated with afternoon rest, bandage, and digitalis resin. The edema disappears rapidly.

CASE 37. Female, 5 feet 3 inches, 50 years. Menopause; weight 150 pounds. At 15 years, weight 138 pounds. For many years weight was 175 and more. After childbirth twenty-one years ago, first appeared urticaria, which has been chronic ever since. The attacks last ten to fourteen days; they reappear every few months. The urticaria is sometimes hemorrhagic, oftener vesicular or bullous. The blebs, on bursting, leave excoriations that heal rapidly. Has been dyspneic on walking for years. For the past four years, cardiac asthma; severe attacks by day, oftener by night. A chronic cough with little expectoration, in paroxysms, like whooping-cough. Respiratory sounds normal; heart dullness increased to left; hypertrophy and dilatation of both ventricles; heart sounds faint, accentuated second pulmonic sound; apex impulse to left and feeble. A virgin case, as she has received neither treatment nor diagnosis. Digitalis resin, afternoon rest of two or three hours, light housework only. The urticaria, cardiac asthma, and chronic cough disappeared together.

CASE 38. Female, 70. Twelve children, all breast nursed. For many years good health. Her weight gradually increased; fifteen years ago it reached 200 pounds. For a year and a half, breathless and speechless on ascending stairs; night attacks of cardiac asthma, increasing in severity. Heart action irregular; mitral insufficiency and aortic stenosis murmurs. Heart plainly dilated. Milk diet to reduce the weight, and 2 grains of digitalis daily. From this treatment weight reduced about 20 pounds in six months and breathing again normal. Too active life and too little rest cause the oppressed breathing to return in nocturnal paroxysms. Is given the resin. Prompt relief. In her opinion the resin acts more quickly than does digitalis, which she took, however, a long time without nausea, vomiting, or diarrhea.

CASE 39. Female, 55 years, medium figure and weight. Child's nurse. For some years short of breath on going upstairs. For a year cardiac asthma at night, often compelling her to sit up more or less for several hours. Suddenly upon going upstairs in the evening, a violent attack of asthma humidum makes her fall, gasping, coughing, and speechless, to the floor. Much bloody mucus and serum is expectorated. A hypodermic injection of digitalate relieves in an hour. The resin is taken for fifteen months, with normal breathing all the time. In this case the pulse is 60; heart action occasionally irregular, heart slightly enlarged to left, valves intact. Heart sounds much louder than normal. Accentuated pulmonic second sound; fibroid myocarditis.

CASE 40. A woman, 72, 5 feet 5 inches, married, childless. When a young woman pelvic peritonitis or abscess with long illness. Arthritis deformans and sciatica, little joint deformity, mobility good. Obesity to 190 pounds. Croupous and broncho-pneumonias, pulse slow, heart at times irregular, heart sounds sharp, valves intact, impulse very weak. Heart enlarged to left; a chronic myocarditis, probably from the arthritis deformans. The weakened heart results in pulmonary and general venous stasis. Urine scanty, but not albuminous. Chronic bronchitis with some expectoration and a most

harassing night cough. Much dyspnea and speechless on ascending stairs. At night, cardiac asthma. For about six weeks is unable to lie down at night and declares that she is able to sleep in a chair with some comfort. Much edema of lower limbs and moderate ascites, liver markedly enlarged. Milk diet and daily saline, sodium sulphate and phosphate. Two grains of digitalis a day, of which she is very tolerant. With this treatment the circulation rights itself. Free diuresis and purging; the edema goes away; the night dyspnea is lost. She is again able to go to bed with comfort, but at first with timid uncertainty, as the dyspneic horror made her fear the bed as an associate of nightly distress. The weight sinks to 150 pounds. After three or four weeks of digitalis, she is given instead the digitalic acid, $\frac{1}{33}$ grain each day. This is continued without omission for more than a year. In the summer the bronchitis is lost. She is able to travel. Her daily life and customary habits are resumed. In this case an afternoon rest of two or three hours is of great benefit. The slow, myocarditic pulse is often kept at 54 with the resin for days. She feels stronger with than without the remedy and is inconvenienced when she misses it for a day.

CASE 41. Male, 77 years, never obese, a draughtsman, formerly a foot soldier. Occasional attacks of gout (transient) in knee-joints. Original attack not found out. Arteriosclerosis, heart valves intact; hard, slow pulse; heart impulse diffused, sounds loud, contractions irregular; hence the gout succeeded by arteriosclerosis, followed by fibroid myocarditis; urine normal. Five years ago amnesic aphasia, speech fully recovered. Later small or superficial brain embolus. No paralysis, but forgetful, irritable, much headache, confusion of mind and apathy, unfit for work or mental effort. Persistent edema of legs, greater in right. With rest in bed and digitalis resin for a long time the dropsy is reabsorbed; torpidity of mind remains.

CASE 42. Male, 92 years; in former years an army officer, later a clerk. Arterial and aortic sclerosis, marked aortic stenosis, pulse weak and intermittent, 60; heart impulse weak, area dullness increased to left, ventricle dilated; fibroid myocarditis. Much muscular weakness and rapid emaciation; cardiac asthma at night, severe suffocative seizures from walking or ascending stairs. Much edema of legs. Milk diet, rest in bed, and the resin for a year in daily dose. Dyspnea, bronchial catarrh, and swollen limbs, all removed; breathing very slow and regular. There remain insomnia, tedium vitæ, probably from weakness, depression, and disappointment from his invalid state.

CASE 43. A widower, 76 years, was well built and muscular. A veteran of the Civil War, severely wounded, later a clerk. Gradually failing with weakness, emaciation, able to walk only a block. He staggers and totters, has fallen, often contused legs from striking against edges of bodies. Has had a mucous prostatic discharge from the urethra, obstinate constipation. Is much depressed in mind, thinks he will not work again. Slight ataxia of hands, writing not affected. No ocular paralysis. Pupils not unequal, react to light but slightly and very feebly. Patellar reflexes lost. Much lumbar pain and sciatic and crural neuralgias. Attacks of epigastric crises with incessant vomiting for three to five days. Atheroma, aorta and arteries of extremities. No venereal history, no articular rheumatism. Blowing diastolic right aortic murmur, not at apex. Left ventricle hypertrophied and dilated, apex impulse to left in sixth intercostal space. Pulsating carotids marked. Apex beat raises finger. Dullness to right of sternum in second intercostal space from dilatation of ascending aorta. Pulsating arteries visible, radial and brachial besides the carotid. Pulsus celer very marked. Whether this case was one of developed tabes, as the symptoms indicate, except the pupil reaction, or whether these tabetic symptoms present a group found in the aged, a malady *sui generis*, or finally that aortic regurgitation with atheroma (venereal or not) can produce the disease here described, must be determined later. The patient made a complete recovery. The digitalic acid was taken for eighteen months. The other treatment was that appropriate to locomotor ataxia.

CASE 44. Female, 60 years, 5 children, invalid for years. Is deaf from chronic otitis, loud tinnitus, headache; vertigo more or less constantly, with nausea and vomiting; occipital pain; in walking, reels or staggers; brain tumor was diagnosed and exploratory

operation advised. Heart markedly dilated, atheroma of aorta, aortic regurgitation. Partly from ill health, partly from hysteria, her state is one of apathy and helplessness. Digitalis, 2 grains daily, at end of week, no effect. Digitalis resin in place of it, 1 daily dose. The vertigo, headache, staggering, nausea, vomiting, and pain in occiput cease; noise in the ear less, deafness the same. Revives and is again cheerful, is able to be about, ride out and does light handwork. After three months discontinues treatment.

CASE 45. A man, 5 feet 10 inches, formerly weighed over 200 pounds. For many months a suppurating cavity in the right upper lobe of the lung, with prolonged septic fever. Physical signs lung tuberculosis. Tubercle bacillus not found in many sputum examinations. Antisyphilitic treatment of no effect. The heart hypertrophied and dilated; the heart action rapid, diffused, and irregular; the valves apparently intact. The urine scanty and highly albuminous; no sugar. An edema appears about feet and ankles, rapidly increases and spreads to the external genitals, back, and walls of the abdomen. A single dose a day of the resin diminishes the dyspnea, does not influence the excessive cough and expectoration, or the rapidly forming dropsy. The dose is doubled, 2 doses each day. Within two and one-half days the urine increases to 7 or 8 pints daily, albumin of urine much less. After four days the dropsy has disappeared completely. The suffocative breathing increased to a high degree of intensity at night. Sudden death from hemoptysis five days later.

Cyclopedia of Current General Literature

Acute Intoxication in Infants, Use of Dextrose Solutions in.—In such cases, because of the severe diarrhea, food must be administered by the subcutaneous or intravenous route. Sugar, thus given, is not only well tolerated, but, the worse the condition, the greater the sugar tolerance. In cyclic vomiting, usually with intense acidosis, saline-dextrose solutions by clysmas by the drop method have given good results.

The author's routine method of treatment in acute intoxication in infants is to withhold all food for from twelve to twenty-four hours, giving merely water or tea by mouth, and stimulating the failing circulation by the use of caffeine, camphorated oil, brandy, and saline solution subcutaneously.

The dextrose solution, as used by the author, is prepared as follows: To 1000 c.c. of freshly distilled water add dextrose, 60 Gm.; sodium chlo-

ride, 7.5; sodium bicarbonate, 0.2; calcium chloride, 0.2, and potassium chloride, 0.2. Filter and sterilize in flasks of about 100 c.c. capacity. The solution is given hypodermically, either by gravity or by means of a large syringe, in doses of from 50 to 200 c.c. It is injected under the skin of the abdomen or under the pectoral muscles. The smaller doses at short intervals are to be preferred.

This solution was given in about 20 cases, most of the patients being *in extremis*. In not a single instance was sugar found in the urine. It would appear that the infant in a state of intoxication can tolerate from 4 to 6 Gm. of sugar two or three times a day and completely utilize it. Study of weight-charts shows that the water is retained better with the sugar than without it, so that the sugar solution is preferable to salt solution. In several instances in which the toxemia was intense the

loss of weight was comparatively slight, and at no time during the injection was there any palpable edema to explain the maintenance of weight. In only exceptional cases were the losses in weight such as one is accustomed to see in these cases. In the majority of cases there was a definite improvement manifested (1) in a tendency to come out of the coma; (2) in an improvement of the turgor, and (3) in the circulation. In one or two instances it seemed to be the only thing that kept the infant alive. H. F. Helmholtz (*Journal of the American Medical Association*, December 13, 1913).

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Burns, Management of.—After giving a hypodermic injection of morphine and atropine, the dose varying with the age of the patient and the severity of the case, the burned area should be immersed, if it be on an extremity, in cold water to which has been added either a teaspoonful of sodium bicarbonate or common salt to the quart of water. A temperature of about 50° or 60° F. is best. If the burned area, on account of its location, cannot be immersed in water, it may be covered with a light, smooth cloth which has been dipped in the solution; then by gently and continuously applying the solution to this cloth the same result will be obtained. This water-bath may be continued for some time, or until the systemic effect of the morphine is manifested.

The author condemns the puncturing of blisters immediately after a burn. In most cases the raised epidermis acts as an irritant, and for several days causes serum to be poured out under the dressings, to

soil them and furnish a good culture for pus-producing germs. Within a few days the epithelial cells in the deep glands of the skin will have accomplished their work of repair if properly protected by the blister. If any blisters are accidentally burst, with the epidermis rolled up or displaced to any extent, it is better to remove such epidermis at once.

After the patient is fairly comfortable from the bicarbonate bath or morphine, the bath may be discontinued and the burned area, with the surrounding surface, sprayed or mopped with hydrogen peroxide. The entire surface should then be mopped with dry gauze. Next one should apply strips of gauze, previously soaked in a 2 per cent. solution of picric acid in dilute alcohol. Over this should be applied a thin layer of cotton, held in place with adhesive strips or a roller bandage. This dressing may remain until it is soiled, at which time all soiled or wet dressings should be removed, the part cleansed with hydrogen peroxide, mopped dry, and fresh gauze soaked in the picric acid solution reapplied. About the third day one may open all blisters and mop away the fluid contents, applying then a fresh dressing, as before.

Where sloughing occurs as a result of charred tissue, or later as a result of infection, the dead tissue should be removed as rapidly as it becomes loosened. Then the underlying exposed surface should be cleansed with hydrogen peroxide, dried, and mopped with the picric acid solution. Over this one should put strips of rubber tissue kept in a 1:1000 bichloride of mercury solution, after which the picric acid compresses and

cotton should be applied as before. If the rubber tissue is applied in narrow strips and the edges permitted to overlap, the dressing will more perfectly adapt itself to the irregular surface. This dressing should be changed as often as is necessary to keep the surface clean and free from pus. J. C. Plain (American Journal of Surgery, March, 1914).

* * *

Circumcision, Substitute for Sutures in.—Sutures are almost always unnecessary in circumcision; they add to the length and pain of the operation, make the subject more prone to infection, and often leave stitch scars. The writer avoids them entirely by the following method: After the prepuce and the mucous membrane have been cut away in the usual manner, the skin and the mucous membrane can be made to adhere together very satisfactorily by applying several hemostats around the cut surface, placing them on the skin from before backward in such a manner as to grasp the mucous membrane and the skin with edges approximating between the jaws of the hemostat for $\frac{1}{8}$ inch, and compressing the jaws tightly. The fenestrations of the blades press the tissues together in corrugated ridges, and they will remain adherent, when after a few minutes, the hemostats are removed. No sloughing occurs at the point of compression. The usual circular dressing is applied, leaving the meatus free. This dressing is changed every twenty-four to thirty-six hours. Healing is usually by first intention. In a very small percentage of cases a bleeding vessel may have to be ligated, but this occurrence is very rare and generally

compression controls the hemorrhage. S. Meredith Strong (American Journal of Surgery, March, 1914).

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Diabetes, Dry Vegetable Diet in.—

The author refers to the fact that von Noorden has shown the advantage of an oatmeal diet in diabetics in a state of acidosis; but often this diet is not well borne, and it does not supply sufficient protein. The author, therefore, substituted for it a dry leguminous diet which has given him excellent results: The patient takes daily 300 Gm. of dried legumins (peas, beans, lentils), 150 Gm. of butter, 3 to 6 eggs, and 3 to 6 aleuronat or gluten rolls. Green legumins may also be given. For the ordinary dry legumins soy beans may be substituted with advantage, in consequence of their richness in protein and poorness in starch; but they are difficult to cook.

This diet is usually well borne, and patients prefer it to one of oatmeal or milk. It satisfies the appetite better than milk, and does not constipate. It does not cause diarrhea, like oatmeal, and is easily digested. The treatment must be followed for at least three days at a time; some patients followed it for a week or longer.

The effects are remarkable, especially in the severe forms of diabetes. In spite of the large proportion of starch in the diet, the glycosuria is often not higher than under a diet poor in carbohydrates; sometimes it is less; occasionally it even ceases, though it has failed to yield to other diets. It seemed evident that the starch of dried legumins is better utilized by diabetics than that of other foods. Thus, in one case there was shown a tolerance of 65 Gm.,

while under oatmeal diet the amount was 35 Gm., under milk 15 Gm., and under a mixed diet, including meat, 42 Gm. more of glucose were passed than corresponded to the amount of starch taken. In combating nitrogenous loss the advantage of the leguminous diet was found still greater. A number of observations showed that under it the nitrogenous balance was strongly positive, while under oatmeal it was in equilibrium, under milk diet negative, and under a mixed diet strongly negative. Thus, the protein of dried legumins is better utilized than that of flesh, milk, or cereals.

In acidosis the dried legumins are of great value. Under this diet the author has often seen the somnolence and anorexia disappear, and the threatening coma be postponed. It diminishes the acidity of the urine more than the other diets. Of all diets the leguminous gives the least acetonuria. It also diminishes the diaceturia, and sometimes even causes it to disappear. Finally, it diminishes the proportion of nitrogen colloid in the urine, while at the same time increasing the ammonia and amino acids. Marcel Labbé (*Bulletin de l'Académie de Médecine*, January 13, 1914).

* * *

Emetine, Effects of, on the Heart.

—Experimentally the author found that emetine hydrochloride in toxic amounts is capable of causing disturbances of the cardiac contractions and ultimately arrest of the heart in diastole. During the course of these effects he noticed that there was disordered excitability and contractility of the heart muscle, manifested particularly in an abnormal response of the heart to faradic stimulation ap-

plied directly to the ventricle. Occurring in the presence of auriculo-ventricular dissociation, these effects show that heart block may have as its cause, independently of all lesion of the bundle of His, disturbances relating exclusively to the contractility and excitability of the heart muscle. R. Moulinier (*Journal de médecine de Bordeaux*, February 15, 1914).

* * *

Gastric Cancer, Diagnosis of.—The negative or positive diagnosis of gastric carcinoma may be made with as great a degree of accuracy by serial röntgenography as by exploratory laparotomy, and without risk to the patient. The author is not content with less than 40 röntgenograms, and frequently makes 70 or 80, which are set up where they may be studied individually and collectively, and superimposed for comparison. The examination is necessarily an expensive one, but, like surgery, it may be placed within the means of all patients.

The röntgenologic diagnosis described is based on permanent, constant deformities in the gastric wall, which interfere with the systole and diastole of the stomach, and the progression pylorusward of peristalsis. These lesions may be detected at practically any stage of development, and in many cases the different types may be differentiated with a reasonable degree of certainty.

A negative and positive diagnosis of gastric cancer was made in each of the 616 cases examined by the author with serial röntgenography, and in not a single case, to his knowledge, where he made a negative diagnosis of gastric cancer or indurated gastric ulcer did surgery or autopsy subse-

quently prove the existence of such a lesion, nor did surgery or autopsy fail to reveal a definite organic lesion requiring surgical procedure in any case in which a positive diagnosis of carcinoma or indurated ulcer had been made. Ninety-seven cases have been operated on. In 94 the röntgenologic diagnosis was proved absolutely correct. In 3 cases the surgical findings were more or less at variance with the röntgenologic findings.

On the whole, gastric cancer at any stage of development, or indurated gastric ulcer, may be detected by the use of serial röntgenography with as great a degree of accuracy as renal calculi or bone fractures may be detected by plain röntgenography. The time has come when a surgeon must not operate on a chronic gastroduodenal lesion without thorough röntgenologic examination. Lewis Gregory Cole (New York Medical Journal, February 14, 1914).

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Hyperacidity of the Stomach, Treatment of.—In the drug treatment of this condition the author prefers magnesium oxide to sodium bicarbonate, and combines it with small amounts of belladonna and a purgative salt, such as sodium sulphate. With the latter he aims to produce a transudation of fluid into the intestine and so to diminish the secretion of the stomach glands. Some other acid-binding drugs, as powdered charcoal, kaolin, and aluminum silicate, act in another way, by mechanical absorption, and each of them is worth trying occasionally.

With regard to the diet, the author strictly observes the following rules, which he believes to be essential:—

1. All food must be well cooked

and most carefully minced. This is based on his theory that the chief business of the stomach is to reduce the food into small pieces, not by its muscular force, but by chemical influences. Pieces not broken up remain for a long time in the stomach, while fluids are rapidly pushed forward.

2. The stomach must come to rest at least once during the twenty-four hours. This can best be arranged by changing the usual time of meals. The patients should eat much food in the morning, but only a small quantity in the evening. During the forenoon, when the patients suffer the least from pain, they should take two or three meals at intervals of two hours, so that there is little appetite left for lunch. After lunch they do not take anything until 7 P.M., when only porridge is given. The author has obtained very good results with this method.

3. Drinking should be generally diminished and restricted to those hours when the stomach is not filled with food. The meals are, therefore, given rather dry, except the first breakfast and the evening soup, and the patients allowed to drink a short time before lunch or in the afternoon. This prevents loading the stomach, and is of special importance in patients with atonic ptosis.

4. If the condition is more severe, or combined with ptosis of the stomach, the patients must stay in bed for two or three weeks. Many patients have their acid pains only when about or walking, never when lying down. This rule is further based on the frequency of latent ulcers which lurk behind the symptoms of hyperacidity.

The author also sometimes orders hot compresses in simple hyperacidity, if they give relief to the patient, but only twice daily for two hours. At night he substitutes cold compresses. Washing the stomach is indicated only if the hyperacidity arises on the basis of a catarrh. Then he rinses the empty stomach in the morning with 1:1000 solution of salicylic acid or 1:5000 solution of silver nitrate. The bowels must be carefully regulated.

If all these measures do not lead to recovery, operation is indicated. The manner and procedure of the latter depend on the condition found during operation. If an ulcer of the pylorus or duodenum or a scar is the cause of the hyperacidity, gastroenterostomy is the correct procedure, and, if possible, the pylorus should be closed. Perigastric adhesions must be loosened, and gall-stones removed by cholecystotomy or cholecystectomy. If there is no anatomic lesion at all, the author advises gastroenterostomy, but without closing of the pylorus. The latter can be recommended only if violent pylorospasm is present. The patient must then go on for some time with the diet and drugs in the same manner as before operation, as the latter does not restore health of itself, but only establishes conditions favorable for internal treatment. Adolf Schmidt (*Journal of the American Medical Association*, February 7, 1914).

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Iodine Tincture, Use of, in Respiratory Catarrhal Conditions.—Having noticed the good effects of application of tincture of iodine to the chest in the treatment of catarrhs of the air passages, the author thought the

benefit noted might be due, not to the absorption of the remedy, but to the disinfectant, detergent action of the inhaled fumes. The action, indeed, is most intense when the tincture is painted on the chest near the mouth or nose, and the author concluded, therefore, that the best effects could be obtained by having the patients inhale directly the fumes of the tincture of iodine. His clinical observations have proven the value of the method. Inhalation of the dry fumes of tincture of iodine is preferable to moist inhalations. The dry fumes penetrate deeper into the pulmonary air cells, leaving behind the alcoholic vapors, which are immediately taken up by the humidity of the air and eventually fixed to the mucous membranes of the respiratory organs.

In applying the measure, recently prepared tincture of iodine should be placed in a wide-mouthed bottle so that the patient's mouth and nose will not touch the glass. The inspirations, numbering from 4 to more than 8 at each sitting, must be more or less deep, according to the gravity of the case, and the inhalation repeated five or seven times a day. An ordinary cold will thus be broken up in one day, but if the case should be in the nature of a bronchial catarrh it will take four days to cure it. If the mucous membranes are covered with a thick mucous stratum, it is well to intensify the iodine treatment and assist expectoration by giving the usual remedies.

In children the treatment may be simplified by dropping the tincture of iodine on pieces of cotton laid on the pillow while the patient is sleeping. Staining of the pillow is avoided by placing a piece of oilcloth under

the cotton. G. Torri (Policlinico, No. 31, 1913; Denver Medical Times, March, 1914).

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Magnesium Sulphate and Glycerin in Local Infections.—The author came to use a mixture of saturated solution of magnesium sulphate and glycerin in equal proportions for the cure of infections, knowing that saturated magnesium sulphate was used in sprains and inflammations to allay pain and abate swelling, and that glycerin had been used for years in the form of tampons in pelvic troubles. He reasoned that a combination of the two drugs might reduce swelling, stimulate lymphatic circulation, and perhaps cause increased phagocytosis. He reports a series of 14 cases of wounds of various kinds, infected blisters, felon, and cellulitis in which the measure referred to was employed. In the latter condition the arm was packed in the hot solution from fingers to shoulders. All the infections were controlled in an unusually short time. E. M. Freese (New York Medical Journal, February 14, 1914).

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Pyorrhea Alveolaris, Treatment of.—Though many have claimed excellent results in this condition by purely dental treatment, a definitely curative treatment has yet to be described. Upon examination one finds that purulent pockets become established more or less deeply in the diseased tissue, in the sphacelated part where the nutrition is bad and where, in consequence, the elaboration of the antibodies against the infecting microbes is very feeble or even nil. It is against this condition that the

vaccine treatment used by the authors is directed.

In the cases which they studied streptococci were found as the species which predominated. In several cases they were associated with *Staphylococcus aureus*, *S. albus* in another, or *S. citreus*. In 2 cases there was found an association of the streptococcus and of the *Bacillus pneumoniae* of Friedländer, once with the *Micrococcus catarrhalis*, and twice with a pneumococcus.

A sensitized vaccine against the streptococcus, staphylococcus, pneumococcus, and bacillus of Friedländer was thereupon prepared. For *M. catarrhalis* a Wright vaccine was made. Vaccine injections were then made, either into the thigh or lumbar region. After two injections, when the antibodies began to take hold, a mechanical and dental treatment—Younger's—was begun. After from 4 to 5 injections, it was found impossible, either by microscopic examination or by cultures, to discern the presence of the bacteria which had originally been obtained. The teeth had become firm in their alveoli; the gums and mucous surfaces had a clean and healthy appearance. Three or four supplementary injections were, however, given. The authors have kept in touch with a number of cases for six months after treatment. These cases have shown no recurrence and seem to have been permanently cured. D. M. Bertrand and A. C. Valadier (New York Medical Journal, January 10, 1914).

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Retroversion, Operation for, When the Abdominal Cavity is Opened.—Alexander's operation for shortening the round ligament is the operation of

choice for retroversion of the uterus. But when a suprapubic abdominal incision must be made, it is often possible to minimize traumatism and save time by correcting the displacement through such an incision. Under these circumstances, operations upon the round ligaments have been found to be most satisfactory.

None of the methods recommended for intraperitoneal shortening of the ligaments, however, fulfills all requirements, and all of them give rise to one or more objectionable features. The author describes an operation free of these objections, as follows:—

Grasp the ligament near its exit from the internal inguinal ring and pull toward the median line until it is taut. Pass a slender twenty-day catgut thread through it about 1 cm. from the internal ring and again about 5 cm. from its uterine attachment and tie it. Sew the edges of the resulting loop of ligament so that it will form a double cord, and leave the end of the thread projecting beyond its free end. Separate the peritoneum freely from the abdominal wall at the lower end of the incision laterally as far as the internal inguinal ring. With the point of a pair of slightly curved hemostatic forceps puncture the peritoneum from without inward about 1 cm. mesially from the ring; grasp the thread and pull the loop through the puncture until all of the sutures are extraperitoneal. With a permanent suture attach the loop at a point about a centimeter from its base to the under surface of the abdominal wall as near the inner ring and as low down as possible without risk of puncturing the epigastric or femoral artery. The pulsating arteries are easily felt, and each step of

the operation should be guided both by sight and touch. Twist the loop half-way round on its long axis and sew it with catgut along the abdominal wall toward the median line. Do the same on the opposite side with the other ligament and close the abdomen in the usual way. Introduce a small pessary to be worn for two or three months.

When the operation is done in this way the sutures are all extraperitoneal, the intraperitoneal relation of the parts is practically normal, and the traction of the ligament is toward the internal inguinal ring. An advantage of the method is that in case the permanent suture should gradually cut through the ligament the adherent subperitoneal connective tissue about the loop or cord would yield sufficiently to prevent the ligament being torn out of it, but would afford an elastic subperitoneal attachment that would still exert forward traction. It would afford better support than the peritoneal bands that sometimes result from abdominal fixation and would prevent complete failure of the operation.

Excepting the abdominal incision, there is in this procedure no cutting, and no dissolution of continuity in the tissues other than the blunt separation of the peritoneum from the abdominal wall over a very limited surface. H. T. Byford (*Chicago Medical Recorder*, January, 1914).

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Stomach, Continuous Lavage of.—

Introduction of a retention stomach tube through the nose, to keep a constant flow of fluid in and out of the stomach, is advised by the author as the best means available for combating acute atony of the stomach and

duodenojejunal occlusion, postoperative paralysis of the bowel and ileus from adhesions, or spastic contraction from peritonitic reflexes. The nose is first cocainized and a soft oiled stomach tube with a lumen of 8 or 11 mm. is worked through the nose down into the stomach. As soon as it reaches there the stomach content generally spurts from the tube spontaneously. The stomach can now be rinsed out if desired. A longer tube is then attached to it and carried to a receptacle. Fluids can be supplied by slow subcutaneous infusion, a drop at a time, of a warm isotonic salt solution, possibly with 4 per cent. of grape sugar. It is convenient to use both the stomach tube and the infusion on the left side, leaving the patient's right hand free. With the retention tube the mouth is left free and the patient can talk, swallow, and have his teeth brushed, while the method has a number of obvious advantages over the ordinary technique for lavage of the stomach. The author has known amounts up to 5 liters thus to be drained away. Westermann has applied the procedure to 15 patients, Kappis to 10, and the author himself to 9. The tube was left in place for four days in one of his cases. Kappis and Westermann found traces of the gastric mucosa sucked into the openings in the tube in 2 cases, and they advise keeping the outlet on a level with the bed to prevent aspiration. The author also advises a trial of the retention stomach tube in cases of vicious circle after gastroenterostomy. M. Grosser (*Archiv für klinische Chirurgie*, vol. ciii, No. 4, 1914).

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Tuberculous Laryngitis, Scarlet Red Treatment in.—The success of

Davis and Deming in the treatment of gastric ulcers with scarlet red led Corning and the author to believe that there might be something of value in this dyestuff in the ulcerations of laryngeal tuberculosis. It was accordingly ordered for all such patients in a sanatorium. It was applied to all cases presenting laryngeal lesions, whether ulcerative or not. The best manner of use was found to be by direct application. The author now uses a preparation the base of which is equal parts of sesame oil and petrolatum, with a dye strength of 10 per cent. This is applied twice daily to the larynx. The drug is not at all irritating and the applications not distressing. No untoward symptoms have been observed.

The first and most surprising result obtained was a very prompt relief of pain. This was noted in every case in which pain had been present. In some the pain was entirely relieved, so that patients were able to eat and drink with comfort. In all cases but 2, both far advanced before treatment was instituted and dying very soon thereafter, ulcerations showed a tendency to heal. The general laryngeal congestion of several cases soon subsided, and the hoarseness improved. In a few patients presenting only infiltrations and edema, after a few weeks of this treatment with scarlet red the swelling grew markedly less. It is to be borne in mind that these were the most incipient cases and that they improved generally during this time. The local improvement, therefore, may have been as much due to the general betterment as to the local effect of the dye, but the result is reported because it is very possible that this drug may be shown to have

some selective action through the unbroken mucous membrane. Eugene E. Hinman (Albany Medical Annals, February, 1914).

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Ununited Fracture, Treatment of.—

Attention is called by the author to the remarkable effect of local injection of osmic acid in a case of ununited fracture of the leg. This fracture had obstinately refused to consolidate under the usual measures, applied for six months. Röntgenoscopy confirmed the lack of consolidation in both tibia and fibula. Then 0.02 c.c. of osmic acid in 1 per cent. solution was injected directly into the focus. There was not much pain or local reaction, but the temperature rose slightly. The injection was repeated three times in fifteen days and the fracture rapidly consolidated, so that the patient was discharged two weeks later. Experimenting on 12 rabbits confirmed the view that osmic acid has a decided stimulating action on the periosteum and bone-marrow. It probably does not start an actual process of ossification, but induces inflammation, which modifies local conditions and causes the cellular elements to hyperfunctionate. M. Segrè (Policlinico, January 25, 1914).

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Wounds and Infections, Treatment of.—The following summary of procedures serviceable in these conditions is presented by the author:—

Fresh Wounds.—*A.* Incised wounds: 1. Paint with iodine. 2. Shave dry. 3. Tie all bleeding points. 4. Remove foreign substances. 5. Suture all tendons and nerves. 6. Again apply iodine in and around the wound. 7. Suture wound. 8. Apply dry sterile dressing.

B. Lacerated wounds: 1, 2, 3, 4, 5, same as in *A.* 6. Cut away all damaged tissue. 7. Again apply iodine. 8. Suture wound.

C. Punctured wounds: 1, 2, same as in *A.* 3. Enlarge opening for drainage. 4. Insert rubber drain. 5. Alcohol dressing. 6. Tetanus antitoxin.

D. Gunshot or bullet wounds: 1, 2, same as in *A.* 3. If great amount of bleeding, enlarge opening and tie bleeding vessels. 4. If nerve injured, suture nerve. 5. Close wound. 6. Apply an alcohol dressing. 7. If neither 3 nor 4 has occurred, all that is necessary after 1 and 2 is to apply alcohol dressing. 8. Tetanus antitoxin.

Infections.—*A.* Inflammations with slight amount of serum exudation and characterized by redness, heat, swelling, pain, and loss of function. 1. Rest. 2. Elevation. 3. Hot, wet dressing.

B. Inflammations with great amount of serum exudation, but with slight tendency to necrosis: 1. Incision. 2. Place gauze in wound saturated with Chlumsky's solution. 3. Apply wet dressing; keep wet. 4. Remove gauze in twenty-four hours. 5. Insert rubber drain. 6. Apply wet dressing.

C. Inflammations with marked necrosis: 1. Incision. 2. Drainage. 3. Wet dressing. 4. After inflammation has receded use Durante's solution. 5. Dry dressing.

Solutions for Dressing Wounds.—Durante's solution: Iodine, 1 part; potassium iodide, 10 parts; guaiacol, 5 parts; glycerin, to make 100 parts.

Chlumsky's solution: Camphor, 60 parts; phenol, 30 parts; alcohol, 10 parts. A. E. Hoag (New York Medical Journal, January 17, 1914).

Clinical Summary

Practical hints from articles and abstracts that have appeared in the
Monthly Cyclopedia and Medical Bulletin during the current year.

Acne. TREATMENT. Acne vulgaris in childhood or adolescence responds well to thyroid treatment. Thymus employed with advantage in cases with enlarged thyroid and rapid heart. *Morris.* Page 11

Acromegaly. TREATMENT. Case of acromegaly in which thyroid treatment caused headache, dizziness, vomiting, and melancholia to disappear, while pituitary treatment always caused their return. *Salomon.* 30

Amenorrhea. TREATMENT. In amenorrhea, flooding, dysmenorrhea, etc., mammary extract treatment often proves corrective. *Berkeley.* 20

In amenorrhea, relative or absolute, ovarian extract considered best remedy by author. *Bandler.* 91

Anemia. TREATMENT. Joint administration of ovarian extract with iron and arsenic in anemias, including chlorosis, in females, recommended. *Bandler.* 91

Angina Pectoris. TREATMENT. Concussion at level of seventh cervical vertebrae, together with hypodermic injection of $\frac{1}{40}$ grain (0.006 Gm.) of pilocarpine, to increase vagus tone, gives relief more promptly than does morphine. *Jarvis.* 160

Ankylostomiasis. TREATMENT. Betanaphthol in 30-grain (2 Gm.) doses given the first thing every morning is likely to prove more effectual than eucalyptus or thymol. Starvation of patient during such treatment is unnecessary; in bad cases it may be harmful. *Keith.* 165

Arthritis, Chronic. TREATMENT. Injections of phenol-camphor used with benefit. Must be made only into joint, never into spongy bone. Formula: Phenol, 30; camphor, 10; alcohol, 30. Only 0.5 or 0.25 c.c. is injected at one point, except in streptococcic processes, where 2 c.c. are necessary. *Pohl.* 235

Arthritis Deformans. TREATMENT. Gradual but permanent improvement noted in a number of cases after administration of thymus extract. Pain and swelling disappear and appetite returns. Nucleoproteid extract much preferable to crude gland. Treatment should cover several months, and small doses be continued for some time after apparent cure. *Berkeley.* 20

Bronchopneumonia. TREATMENT. Hot baths, followed by brief cold affusion, in acute bronchitis, bronchiolitis, and bronchopneumonia in young children reduce fever,

stimulate expectoration, deepen breathing, exert soporific effect, improve appetite, stimulate elimination through skin, and seem to act specifically in shortening disease. Bath water is at 41° C. (105.8° F.), hot water being added as cooling occurs. Patient is bathed every three hours, up to 5 times a day. Baths particularly appropriate for feeble children who became chilled at periphery with internal temperature high. The weaker the child and higher the fever, the more frequently baths are given. Where the temperature not above 39° C. (102.2° F.), ten-minute bath is given 3 times a day. Hot bath is not contraindicated where temperature exceeds 40° C. (104° F.) in infants or very young children, though for older children warm baths may be substituted. At conclusion of each bath nurse elevates child from hot water so back of neck is exposed, and cold water is dashed once over neck, causing reflex gasp for breath. Child is next reimmersed momentarily in hot water and cold water poured on chest, after which he is dried, wrapped in warmed clothes, and placed in warmed bed. Baths to be continued once daily into convalescence if patient coughs. *Arneth.* 55

Cancer. DIAGNOSIS. Marked diminution of the area of cardiac dullness in the recumbent posture, as determined by percussion, found in 87 per cent. of 111 cancerous cases and only 16 per cent. of 107 non-cancerous cases. This sign may be present in cancerous cases that show no wasting. When the sign is present, diagnosis of carcinoma should be rejected only after careful consideration. In some cases the sign has appeared early enough to enable successful resection to be carried out. *Gordon.* 234

Constipation. TREATMENT. Constipation and rectal irritation in neurasthenics greatly benefited by the perineal and anal douche, hot as can be borne, followed by cold douche at 60° to 50° F.; stronger revulsive effects are obtainable with an alternate hot and cold application. *Pope.* 50

Corneal Ulcer. TREATMENT. Bathing part with 1 per cent. ethyl hydrocupreine solution for one-half minute every hour, six hours first day and twelve on next, found rapidly effectual in a case of *ulcus serpens* with hypopyon from chronic dacryocystitis. Sac expressed and conjunctiva cleansed with boric acid before each treatment with ethyl hydrocupreine, which was dropped on the ulcer. Practically specific against pneumococcic infections. *Wiener.* 168

Delirium Tremens. TREATMENT. (1) Withdraw cerebrospinal fluid by lumbar puncture in amounts as large as possible—50 to 60 c.c. (2) Inject with syringe an equal amount of sterile 1 per cent. sodium bromide solution. Immediate improvement in delirium usually occurs, followed by temporary return and then permanent disappearance of delirium. Relapse occasionally after a few days; usually controlled by repetition of injection. *Kramer.* Page 110

Diabetes Mellitus. DIAGNOSIS. Frommer's test recommended for detection of small amounts of acetone. Treat about 10 c.c. of urine with 1 Gm. of sodium hydroxide in substance and without waiting for it to dissolve; add 10 or 12 drops of a 10 per cent. solution of salicylaldehyde in absolute alcohol. Heat to 70° C. In the presence of acetone, marked purple-red color develops at zone of contact with alkali. This test indicates presence of 0.000001 Gm. of acetone. Urine must be diluted so that its specific gravity is about 1.01. *Muhlberg.* 232

TREATMENT. Therapeutic value of an "easy nitrogenous diet" pointed out, *i.e.*, of one consisting almost exclusively of milk and its derivatives, cereals, fruits, and vegetables. Such a diet partially takes off burden of nitrogenous metabolism from liver and tends to relieve its instability as regards glycogenic function, therefore often causing glycosuria to disappear. *Cornwall.* 110

Dysentery, Bacillary. TREATMENT. In acute form: (1) Rest and warm covering; (2) only small amounts of food at a time; (3) calomel at the outset; (4) acid drinks; (5) enemata of saline or soda solution or of methylene blue. In chronic form: (1) Rest; (2) enemata of 1:500 or 1:1000 silver nitrate, 0.25 to 0.5 per cent. tannic acid, 1:500 or 1:1000 thymol, 1 to 2 per cent. resorcinol or creolin, or enemata of gum arabic mixed with bismuth subgallate or iodoform; (3) phenyl salicylate, tannigen, ichthyol, or calomel internally; (4) serum treatment, 10 c.c. in mild cases, 10 c.c. twice at six- to ten-hour interval in medium cases, and 40 to 60 c.c. in severe cases, not exceeding 20 c.c. at a time when serum used daily; (5) appendicostomy or cecostomy with irrigation in severe cases. *Bassler.* 111

Dysmenorrhea. TREATMENT. Cocaine applied to tuberculum septi in nose and anterior portion of inferior turbinate on both sides, followed by application of trichloroacetic acid over these spots, in 93 cases. Four applications made between periods. Cases with premenstrual headache, nausea, and colic at onset of flow—but without organic pelvic lesions—completely relieved. Of 81 cases sending subsequent reports, 48 had been cured and 14 improved. *Mayer.* 167

Atropine found very useful, except in cases with high blood-pressure, when pres-

sure must be reduced and cause sought and removed. *Stolper.* 235

Eclampsia, Puerperal. TREATMENT. Report of 2 cases in which pituitary extract injections—2 in each patient—yielded successful results, labor being brought on thereby. *Schlossberger.* 28

Eczema. TREATMENT. Both chronic and acute forms respond to thyroid treatment. Fat subjects and those with xeroderma respond best. *Morris.* 11

In mild acute cases paint on lesions an aqueous solution of picric acid several times daily; in more severe cases apply wet dressings of the acid, held by facial mask. Prompt and gratifying results. In subacute and chronic types cure hastened by beginning treatment with two or three days' application of picric acid solution. *Wilcox.* 176

Edema, Angioneurotic. TREATMENT. Pituitary and adrenal preparations found useful. *Morris.* 11

Epilepsy. TREATMENT. Four patients with severe essential epilepsy treated with subcutaneous injections of cerebrospinal fluid, taken for each from another epileptic. Considerable benefit. Dose of fluid injected, 3 to 5 c.c. biweekly or weekly. Improvement striking both as to severity and frequency of attacks. In some, petit mal took place of grand mal. Greatest improvement noticed especially if injected fluid was taken from other patients during recurrent attacks, no matter how slight the latter. *Gordon.* 235

Epithelioma. TREATMENT. Concentrated sunlight, focused on growth with ordinary magnifying glass, found effectual. Useful where X-rays and radium not available. Invariably successful in obstinate recurrent ulcerative patches on face or nose. Focus sunlight on sore for ten or fifteen minutes at a sitting. If scab present, concentrate rays till burning is felt, then lengthen focus to cover wider area. Induce burning again every few minutes. Treat every day or two till scab easily removed, then apply a little cocaine and after three or four minutes apply rays so as almost to cauterize base of ulcer. Alternate with milder applications for fifteen minutes. Under milder treatments thereafter, at longer intervals, cure usually complete in three to six weeks. *Seelye.* 166

Erysipelas. TREATMENT. In severe erysipelas a single small vaccine inoculation,—5 million,—preferably of autogenous vaccine, will usually cause a critical fall of temperature, and a second or third dose at about five days' intervals generally completes resolution. *Whitfield.* 56

In facial erysipelas: Have beside bed bowl of boric acid solution in which ice is placed. Keeping cloths frequently moistened with the solution continuously on face effectually relieves pain and burning. Where leg or arm

involved: Wet dressings of boric acid or aluminum acetate. In migratory cases: Ichthyol may be applied or surfaces painted with picric acid solution. *Erdman*. Page 112

Pyramidon used in 20 cases with uniformly favorable results: Diaphoresis, antipyresis, sedation, fading of eruption, which ceases to spread, and improved general condition. Diuretic beverages also given. Locally, following ointment used: Phenolis, camphoræ pulveris, ana gr. xv (1 Gm.); adipis lanæ hydrosi, petrolati, ana 3ss (15 Gm.). *Satre*. 167

Discomfort and pain more rapidly relieved by picric acid solution than other agents, and edema disappears promptly. *Wilcox*. 176

Furunculosis. TREATMENT. Where boil already soft: (1) Paint tincture of iodine freely over and around it; if several lesions close together, paint over entire area. (2) Place gauze pad with 10 per cent. ichthyol in petrolatum over the area, cover with a little cotton, and hold with bandage. (3) Next day, remove pus, wipe with benzine, and reapply iodine and ichthyol. (4) When pus entirely absorbed, discontinue iodine, but apply pure ichthyol. (5) To activate epithelial growth where necessary: Argenti nitratis, gr. xv (1 Gm.); balsami peruviani, gr. lxxv (5 Gm.); adipis lanæ hydrosi, 3iiss (100 Gm.).—For a furuncle not yet softened: (1) Apply iodine. (2) Thick coating of ichthyol, to be allowed to dry on or covered with a little absorbent cotton and gummed adhesive. (3) Next day, wipe off ichthyol with warm water or if possible wash area with soap and water, and reapply iodine and pure ichthyol. (4) Stop iodine on third or fourth day, continuing ichthyol till all inflammation subsided. Single layer of gauze, tissue, or cigarette paper may be applied when ichthyol has dried. *Berger*. 113

General Paralysis. TREATMENT. Remissions may be prolonged by suitable doses of tuberculin ($\frac{1}{1000}$ to $\frac{1}{5000}$ mg. of tuberculin residue). *Jackson*. 236

Goiter. TREATMENT. Vaccines prepared from coliform bacilli of patient's own bowel administered in 8 cases of parenchymatous goiter, with disappearance of enlargement in one and diminution in the others. Initial dose usually 125 million, later increased, upon diminution of size of goiter, by 25 or 30 million weekly. Injections given weekly. *Langmead*. 23

Salicylates, creosote carbonate, menthol, thymol, etc., are helpful after the intestinal functions have been regulated. In nodular, cystic, colloid, fibrous, and intrathoracic goiters, iodine is seldom of value and sometimes dangerous. *Sajous*. 1

Goiter, Exophthalmic. TREATMENT. Ligation of thyroid vessels and sometimes a portion of the gland is indicated (1) in patients with mild symptoms of hyperthyroid-

ism; (2) in the large group having acute, severe exophthalmic goiters, and the chronic, very sick patients who, having exhausted all forms of treatment, are suffering from various secondary symptoms, and (3) in cases with marked pulsation and thrill of thyroid arteries associated with cardiac dilatation and loss of weight. Thyroidectomy later advisable, to prevent relapse to former condition. Should trouble recur before a partial thyroidectomy is made, or a severe relapse after partial extirpation, inferior thyroid artery should be ligated and half of remaining lobe removed when improvement occurs. *Mayo*. 16

In early and mild cases in virgins, author begins treatment with corpus luteum, which is useful as antidote to thyroid intoxication. *Berkeley*. 20

Report of cases improved by administration, for several months, of 20 to 30 Gm. (5 to 8 drams) of quinine divided among twenty days in each month. *Gaultier*. 90

Gonorrhea. TREATMENT. Iodine treatment gave excellent results in gonorrhea in the female: (1) Swab external genitals with a 3.5 per cent. solution of iodine in alcohol; (2) force a few drops of same solution in orifices of Skene's and vulvovaginal glands through blunt hypodermic needle; (3) with patient in Sims's position, insert Sims's speculum, swab vagina dry with cotton, and paint cervix with iodine solution; (4) swab posterior vaginal cul-de-sac and wall; (5) introduce narrow strip of gauze high up against posterior wall, and remove speculum; (6) give hexamethylenamine, 5 to 7½ grains (0.3 to 0.5 Gm.) four times daily in plenty of water. Where cervix and uterus chronically involved: (1) Paint cervix with iodine; (2) grasp anterior lip with volsellum and remove any stringy discharge; (3) insert small uterine sound if required; (4) introduce intra-uterine syringe to fundus and instill 1 dram (4 c.c.) of iodine solution while withdrawing; (5) treat vagina as in acute cases. Repeat applications every third day in both acute and chronic forms. In all cases order hot douches of 4 to 6 quarts (liters) of hot saline two to four times daily, always followed by a 1-quart (liter) injection of 1:5000 permanganate or 1:250 picric acid. *Hofmann*. 48

Gonorrheal Vaginitis of Children. TREATMENT. Mixed autogenous vaccines of gonococcus and usually staphylococcus, streptococcus, diplococcus, colon bacillus, etc., used in 40 cases with uniformly good results. Average number of injections required for cure, 7. Initial dose, 25 to 50 million, then gradually increased. Interval between injections not less than five nor more than seven days. If after six weeks case still needs treatment, as shown by examination of discharges, a second vaccine should be made. *Wolff*. 49

Headache. TREATMENT. In headache or head pressure in nervous fatigue a fomenta-

tion applied for five or ten minutes twice, and followed by a cold compress, is effective. If headache is congestive, use hot foot bath, followed by ice-bag to nape of neck and cold compress to forehead. Sitz baths at 90° F., or cold foot baths, often relieve. *Pope.*

Page 50

Hemorrhage, Cerebral. TREATMENT. Venesection used with good results and recommended in cases of apoplexy in full-blooded patients with blood-pressure of 200 mm. or more. Amount of blood let in author's cases, 12 to 48 ounces. Where vein at elbow not easily found in stout persons, there are usually varicose veins in legs which can be opened. *MacFarlane.*

121

Hernia. TREATMENT. Inversion of hernia recommended in patients who take anesthetic poorly and maintain strong expiratory efforts, forcing viscera into sac under pressure. Primary union and cure of hernia in each of author's 7 cases thus dealt with. *Haynes.*

170

Herpes Labialis. TREATMENT. Picric acid solution causes rapid drying of lesion and tends to prevent extension. *Wilcox.*

176

Hodgkin's Disease. TREATMENT. Benzene, 5 minims (0.3 c.c.) three times daily at first, then increased to 10 minims (0.6 c.c.), caused marked regression of enlarged nodes, beginning two weeks after treatment begun, in a case previously treated unsuccessfully with X-rays. The 10-minim dose was continued for six weeks. *Lawson and Thomas.*

173

Hyperchlorhydria. TREATMENT. Cream diet considered useful. (See Ulcer, Gastric.) *Nichols.*

169

Impetigo. TREATMENT. In exceptional cases which do not yield to local measures, a few staphylococcic vaccine inoculations—usually, in fact, a single one—will cause prompt cure. *Whitfield.*

56

Insanity. TREATMENT. Recovery in manic-depressive insanity may be hastened by stimulation of leucocytosis by injection of 1 c.c. of terebene subcutaneously in the flank. *Jackson.*

236

Insomnia. TREATMENT. In nervous fatigue (neurasthenia) this symptom is best met by cold pack or dripping-sheet at bedtime, or by the trunk compress, consisting of a coarse linen bandage wrung out of water at 65° F. and covered by several layers of same material to exclude air; it should be worn all night. Excellent also is the neutral bath at 94° to 96° F. for from twenty to sixty minutes. *Pope.*

50

Intertrigo. TREATMENT. Paint picric acid solution on surfaces and separate them with thin layers of absorbent cotton. In the more severely infected cases wet dressings of picric acid. Prompt results. *Wilcox.*

176

Intestinal Motor Inactivity. TREATMENT. Pituitary extract recommended. Injection of 3 c.c. in adults causes evacuation in 88 per cent. of cases in from six to twenty minutes. Usually constipation later recurs, but often a single injection will induce several stools on same day and keep bowels regular for a day or two after. The extract is valuable for prophylaxis and cure of postoperative intestinal paresis. Continued, it tones up intestine and also stimulates stomach motility. For lasting effect, inject ½ c.c. intramuscularly every day for a week, then 1 c.c. every three days for another week, and thereafter 1½ c.c. once weekly. *Houssay and Beruti.*

27

Intestinal Stasis, Postoperative. PROPHYLAXIS. Harmful effects of abrasion of visceral peritoneum in operations can be overcome by introducing 6 ounces (180 c.c.) of sterilized mineral oil in abdomen and sponging it over coils of intestine. *Burrows.*

52

Lumbago. TREATMENT. Salicyl compounds or a 10- or 20-grain (0.6 or 1.2 Gm.) dose of quinine at onset of condition useful. Rochelle salts, ½ to 1 dram (2 to 4 Gm.) every hour or two until urine alkaline and bowels freely moved, also valuable. "Walking the lumbago off" may succeed if free perspiration accompanies the exercise. Turkish bath in early stage safer and more effective. Later: Rest, dry cups locally, deep massage, faradic current, and, if salicylates fail, iodine, in vegetable protein combination. *Henry.*

175

Lupus Erythematosus. TREATMENT. Benefit followed use of adrenal substance in this condition. *Morris.*

11

Lupus Vulgaris. TREATMENT. Where Finsen light not available, old tuberculin is capable of great service. Begin cautiously; then make steep rise in dose as soon as one dose ceases to call forth reaction. *Whitfield.*

56

Gold and potassium cyanide injected intravenously in 12 cases. Single dose, 0.01 to 0.05 Gm. Results good. Course of 12 to 14 injections followed by interval of two to three weeks, after which another treatment given. Even in severe cases, therapeutic results better than with tuberculin and other measures. *Poór.*

236

Myasthenia Gravis. TREATMENT. Pituitary extract, combined with ovarian, found useful in 2 cases. *Lagane.*

85

Obesity. TREATMENT. Colloidal hydroxide of palladium, suspended in olive oil and liquid paraffin in proportion of 25 mg. of palladium to 1 c.c., caused marked loss of weight, without untoward action except some local irritation, in 2 cases of obesity. Dose, 2 c.c. of suspension, injected under skin of abdomen. *Kauffmann.*

116

Ozena. TREATMENT. Use of sugar recommended. For first week or two surgeon should carry out treatment himself,

and precede sugar by removal of crusts from nose, softening them if necessary with hydrogen dioxide or sodium bicarbonate solution. Patient to use nasal syringe once daily. After crust removal, massage mucosa with cotton-tipped probe; then nostrils may be packed with ribbon gauze soaked in simple syrup, to be removed in twelve hours. Repeat this treatment on alternate days. After a fortnight patient can insufflate powdered sugar himself. *Harry*. Page 175

Paralysis Agitans. TREATMENT. Good results from administration of thyroid and parathyroid preparations with calcium chloride. *Gauthier*. 86

Perinephric Abscess. DIAGNOSIS. Pain referred to lower limb of same side found of considerable diagnostic value. There are both pain and tenderness, particularly marked along external cutaneous nerve just below anterior superior spine and on external aspect of thigh. *Belikov-Chtomitch*. 117

Pneumonia. TREATMENT. Ethyl hydrocupreine hydrochloride given internally in pneumococcic lung inflammation, with good results. Dose usually 0.5 Gm. ($7\frac{1}{2}$ grains) *t. i. d.*, daily amount not exceeding 1.5 Gm. (23 grains). In 9 cases no other medication was employed; in all of these temperature fell more rapidly, by crisis or lysis, than with other methods. No untoward after-effects. *Vetlesen*. 118

Vaccine treatment advised. First give polyvalent stock vaccine of pneumococcus and streptococcus, of each, 30 million, as soon as possible. Make sputum smears and cultures, blood-cultures in early cases, lung puncture in late ones, and prepare autogenous vaccine. If no definite response in twenty-four to forty-eight hours, repeat or preferably give autogenous vaccine. If still no response in thirty-six or forty-eight hours, double the dose. If there is response, as shown by improved clinical symptoms and signs, increased well-being, etc., defer reinoculation three days, or until the first symptoms of retrogression in general condition or physical signs occur. Maintain the dosage or increase it every two or three days until the patient entirely well. Generally about three doses are necessary. Average mortality with vaccine treatment only 5 to 10 per cent. Convalescence shortened and danger of complications lessened. In severe cases also give 20 to 30 grains of sodium citrate every two or three hours. *Craig*. 238

Poliomyelitis, Acute. DIAGNOSIS. Pre-paralytic symptom: A peculiar, twitching, tremulous, or convulsive movement of certain groups of muscles, lasting from a few seconds to somewhat less than a minute. Usually affects part or whole of one or more limbs, face, or jaw, but sometimes whole body. Duration of spells short at first. Often accompanied by a cry similar to

hydrocephalic, or by brief period of unconsciousness. *Colliver*. 177

Psoriasis. TREATMENT. Thyroid preparations found especially efficacious in psoriasis associated with adiposity. They should not be exhibited until eruption is fully developed. *Morris*. 11

Low nitrogen diet found to have very favorable influence upon psoriasis eruption, especially when extensive. Severe cases improve under such a diet almost to the point of disappearance of the eruption. *Schamberg, Kolmer, Ringer, and Raiziss*. 178

Application of picric acid solution brings immediate and constant relief from itching. *Wilcox*. 176

Puerperal Fever. PROPHYLAXIS. Whenever irrigation of vagina with boiled water through speculum yields a yellowish fluid, one should irrigate once daily for at least ten days with a 1:200 solution of lactic acid. Morbidity thereby reduced from 28.6 to 7.6 per cent. Full baths to be avoided before delivery. *Zweifel*. 54

TREATMENT. Intravenous injections of distilled water given in 142 cases of puerperal fever. Of 62 patients with pyemia and septicemia, 42 were cured. In an hour or hour and a half after an injection there is usually a chill, with rise in temperature. By evening or the following morning temperature will have fallen to normal, sweating usually accompanying the drop. *Ilkewitsch*. 53

Puerperal Sepsis. TREATMENT. Fixation abscess recommended in this and other severe infectious states, including pneumonia, appendicitis, typhoid fever, etc., whenever condition seems to be taking a turn for the worse. Inject 2 c.c. of pure oil of turpentine under gluteal skin. When abscess forms, evacuate through small incision (do not drain) and apply Bier cups twice daily. Excellent results in 18 cases. *De Lostalot*. 168

Rabies. TREATMENT. Potassium iodide in 2 per cent. solution, 1 tablespoonful or dessertspoonful at frequent intervals throughout course of preventive injections, recommended as adjuvant in treatment. In 3 cases of abortive rabies symptoms promptly disappeared after use of potassium iodide. Advocated especially in cases where infection has existed in latent condition for some time. *Koch*. 55

Rachitis. TREATMENT. Pituitary extract given to 16 young children with rickets, and effects compared with controls. After a few weeks of pituitary, the children were able to stand and began to walk; fontanelles began to close and growth of teeth was considerably accelerated. Osseous tenderness gradually diminished, weight was gained, and musculature became firmer. *Weiss*. 218

Retention of Urine, Postoperative. TREATMENT. Pituitary extract injected intra-

muscularly in 21 puerperal and 24 postoperative cases with excellent results. *Ebeler.*

Page 91

Ringworm. TREATMENT. Body ringworm more easily controlled by painting on picric acid solution than by usual antiseptic ointment. *Wilcox.* 176

Sciatica. TREATMENT. Eight cases treated by injections of 4 per cent. quinine and urea hydrochloride in salt solution into subcutaneous tissue over course of nerve. Fifty injections in all, without untoward results. Always decided relief after first injection and no further attack after third. Injections daily for 4 doses, then every other day until patient entirely relieved. Two cases of facial neuralgia also treated, with complete relief after second injection. *Cables.* 119

Syphilis. DIAGNOSIS. Luetin test valuable as diagnostic measure in tertiary and latent stages of syphilis, indicating a state of hypersensitiveness to spirochetal proteins induced by a period of cessation of introduction of these proteins previous to the test. Provocative injection of salvarsan, followed by both Wassermann and luetin tests, suggested to ascertain whether treatment has been curative in a given case. *Foster.* 179

TREATMENT. Epinephrin, 15 to 20 drops of 1:1000 solution in a little water by mouth, advised ten to fifteen minutes before injection of neosalvarsan, to prevent "nitritoid" symptoms, arising in some patients from the latter, e.g., facial congestion, galling in throat, nausea, and vomiting. *Galliot.* 212

Tonsillitis, Ulcerative. TREATMENT. After thoroughly washing surfaces and crypts, apply 10 per cent. silver nitrate solution over ulcerated surface and carry down into crypts as well. Then dust thymol iodide with powder blower over gland and throw it into diseased lacunæ. Where tonsils seat of recurring inflammation, but patient objects to removal, use electric cautery. Selecting 3 or 4 crypts at a time, apply 10 per cent. cocaine solution to interior of each with fine-pointed cotton applicator. When anesthesia sufficient, introduce curved electrode into each crypt and turn on sufficient current to produce a white heat before electrode removed. Patients thus treated are freed from further attacks. *Bishop.* 241

Tracheobronchial Glandular Enlargement. DIAGNOSIS. Percussion of thoracic vertebræ, especially those above level of inferior scapular angles, affords tonal changes of clinical value in this condition; these must always be correlated, however, with mural signs in the individual case. In comparison with other (neoplastic) mediastinal masses, tracheobronchial tumors affect vertebral percussion sound less, and oftener produce dullness than hyperresonance. *Da Costa, Jr.* 180

Tuberculosis, Articular. TREATMENT. X-rays found useful in bone and joint tuberculosis. Aluminum or thick leather shield to be used. Treatment not to be employed in children less than 5 years old, and in older children epiphyses should preferably be avoided. Best effects noted in cases with sinuses and secondary infection. Part exposed from all sides to an erythema-producing dose; three weeks then allowed to elapse before repetition. Joints healing under the rays show but little limitation of motion. Abscesses with skin about to yield should not be rayed, owing to danger of necrosis. *V. Schede.* 165

Tuberculosis, Pulmonary. DIAGNOSIS. Contrast between resonance of air-containing tissue and deadness of the airless spot is striking when light percussion practised. If on increasing force of stroke dullness remains, one may conclude that there is an extensive area of airless tissue. A shorter apex on one side is of immense significance. In infiltrated apex a long, held inspiration gives a duller note on percussion than is found over healthy side; this is often of value in doubtful cases. Where history, symptomatology, and course of disease point to tuberculous infection, one may safely diagnosticate tuberculosis without any definite auscultatory signs. *Fishberg.* 54

TREATMENT. Frequency of gastric atony and dilatation, with resulting digestive symptoms and secondary toxic manifestations (aches and pains in chest and right hypochondrium, morning depression, insomnia, hepatic weight, vertigo, chilliness an hour after meals, fleeting edema, etc.), in pulmonary tuberculosis pointed out. Treatment: (1) Support to stomach and abdomen by Rose belt of plaster or moleskin, followed, upon improvement, by supporting belt to be worn continuously and later in daytime only. (2) No liquids with meals or for two to two and one-half hours after. (3) Lunch to be light. (4) Recumbency, with attempt to sleep for one-half to one hour after each meal. (5) No alcohol or fresh bread. (6) Medicinal treatment: Tr. nucis vomicæ, acidi hydrochlorici dil., aa f3ss (15 c.c.); glyceriti pepsini, f3iiss (c.c.); aq. menthæ pip., q. s. ad f3iij (90 c.c.). Teaspoonful in ½ glassful of water after meals. If much flatulence, add chloroform water, 2 or 3 minims (0.13 or 0.2 c.c.) to the dose, until relieved. (7) Cold shower or sponge baths, with needle bath to abdomen, followed by brisk rub, each morning. (8) Where mucous passages and flatus: Turkish towels, wrung out in hot water, to be applied to abdomen for one-half hour after meals. (9) Thorough mastication of food and abstention from worrying at meals. (10) Fats to be avoided at first. *F. N. Robinson.* 95

Measures to overcome fever described: (1) Where prolonged fever drains on patient's strength, pyramidon is drug to be preferred—5 grains (0.3 Gm.) in cachet at night, or, if

necessary, three times a day. In neurotics bromides sometimes efficacious. (2) Rest in recumbency to be insisted on until temperature does not rise above 99° in men or 99.2° in women, when patient may sit in chair for two hours, then recline on couch, in open air if possible. Exercise then gradually increased. (3) Where severe cough, sedative mixture tends to prevent fever from the exertion and autoinoculation. (4) Where rest and drugs fail, cautious use of tuberculin (T. R. or B. E.), beginning with only $\frac{1}{100000}$ mg., exerts antipyretic action, though often only for short periods. Tuberculin acts best in cases free from fever while at rest, but febrile when exercise taken. *Wethered.*

Page 120

Value of auscultation at acromion process in apical tuberculosis emphasized; it amplifies all auscultatory signs over apices. Of 28 cases in first stage, all showed acromial breathing. *Magida.*

Ulcer, Gastric DIAGNOSIS. Following combinations practically assure a diagnosis of ulcer: (1) Tender point with occult blood. (2) Hypersecretion with tender point. (3) Hypersecretion with occult blood. (4) Tender point with repeated positive thread tests. (5) Tender point with hematemesis. (6) Hematemesis with hypersecretion. (7) Hypersecretion with positive thread tests. *Verbrycke.*

114

TREATMENT. Cream diet used with success in 26 cases. One quart (4 glasses) a day yields 1800 calories. To this may be added 600 c.c. of milk or 6 slices of bread or 5 tablespoonfuls of oatmeal gruel or 3 eggs. Cream causes inhibition of gastric secretion. If not tolerated in full strength, it may be diluted with equal or greater amount of milk. Ice-cream a useful variant. Some marked cases progressed to good recovery in two or three months under cream diet. Method adapted for bed or ambulant treatment. Also useful as prophylactic against recurrence of ulcer. *Nichols.*

169

Ulcers. **TREATMENT.** In indolent tuberculous ulcers, 1 or 2 doses of old tuberculin usually cause complete healing in a week or two. *Whitfield.*

56

Urticaria. **TREATMENT.** Pituitary and adrenal preparations found useful. *Morris.*

11

Vomiting. **TREATMENT.** In paroxysmal vomiting of chronic, recurrent character, where no organic disease of stomach is discoverable, adrenal gland treatment is frequently of value. *Berkeley.*

20

Vomiting of Pregnancy. **TREATMENT.** Apomorphine, $\frac{1}{36}$ grain (0.0018 Gm.) in a teaspoonful of water, found effectual in a severe case; likewise in other cases of vomiting or nausea. *Field.*

182

Vomiting, Postanesthetic. **TREATMENT.** When vomitus of hemorrhagic type, give 5 to 10 minims (0.3 to 0.6 c.c.) of 1:1000 epinephrin hydrochloride in a teaspoonful of water. Cessation of vomiting follows. *Keay.*

93

Whooping-cough. **TREATMENT.** Vaccine containing 20,000,000 dead *B. pertussis* per c.c. used in about 70 cases. Infants received $\frac{1}{2}$ c.c. as initial dose and $\frac{3}{4}$ c.c. four days later; others, $\frac{1}{2}$ c.c. and 1 c.c. Prompt, uniformly good and often striking results obtained. In cases already having a bronchopneumonia as complication, a mixed vaccine should be used. *Davidson.*

118

Silver nitrate in 2 per cent. solution applied to throat in 95 early cases to prevent spread of infection downward from pharynx. Useful results in 84 instances. Mucus secretion prevented and coughing spells due to irritation by secretion minimized. Silver solution applied every day at first; later, and in older children throughout, on alternate days. *Ochsenius.*

182

Wounds. **TREATMENT.** Stream of air from ordinary electric fan or register found useful in drying and promoting healing in large wounds, obstinate leg ulcers, and discharging eczema. *Heisler.*

182

Book Reviews

AN INTRODUCTION TO THE HISTORY OF MEDICINE. By Fielding H. Garrison, A.B., M.D., Principal Assistant Librarian, Surgeon-General's Office, Washington, D. C. Octavo of 763 Pages, Illustrated. Philadelphia and London: W. B. Saunders Company, 1914.

Doctor Garrison has rendered a veritable service to the medical profession by utilizing the unequaled facilities afforded by the Surgeon General's Library of Washington to prepare so excellent and comprehensive a history of medicine. While claiming to furnish but an outline, he gives us in reality an analytic study of the "best that has been thought and said" in our chosen field from the remotest period to the present. In the seven hundred and thirty-five pages of closely printed text of which the work consists, we have thus unfolded in turn the various forms of ancient and primitive medicine, Egyptian, Sumerian, Oriental, and Greek, the latter comprising the pre-Hippocratic era, the classic and the Greco-Roman periods. Then follow in chronologic order the Mohammedan, Jewish, and Medieval periods, that of Renaissance, of revival of learning, leading up to

the age of individual scientific endeavor and to that of theories and systems. The nineteenth and twentieth centuries mark the beginning and elaboration of organized and truly scientific medicine—more fruitful in its results than were the centuries that had preceded them. The work is copiously illustrated and the highest grade of calendered paper used. The many photographs, daguerreotypes, and vignettes reproduced stand out with utmost clearness. The author and publishers are to be congratulated on the production of so useful a work.

THE DOCTOR IN COURT. By Edwin Valentine Mitchell, LL.B., of the Massachusetts Bar. 152 Pages. New York: Rebman Company, 1913. Cloth, \$1.00.

The author of this book describes his work as "an attempt to put briefly and in high relief the general principles of law relating to the medical profession, and the reasons for these principles." The book is undoubtedly one calculated to be of much value to the practitioner, whose knowledge of legal requirements is often imperfect. It will assist him in foreseeing and forestalling unpleasant eventualities that may grow out of his relations with his patients. The subjects taken up in succession in the book are: professional evidence, the proper attitude for the physician called to court being summarized; the contract of the profession, under which, as a chapter heading, are considered contracts of different kinds, the degree of professional learning and skill which the physician is required to bring to the aid and relief of his patients, his following established practice, etc.; civil responsibility of the profession; remuneration; confidential communications; the criminal responsibility of the profession, and qualifications. It seems doubtful if any more useful information on various aspects of the physician's relationship to the courts could possibly be given in the space afforded by the 140-odd pages of this little book. The physician or surgeon called to testify will find the work extremely useful, and he who has not yet been called is not likely to regret being forearmed by its perusal.

THE PRACTICE OF PEDIATRICS. By Charles Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Octavo of 878 Pages, with 139 Illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00, net; Half-morocco, \$7.50, net.

Of good, comprehensive textbooks on pediatrics recently published there have been relatively few, when one compares their number with that of works on most of the other specialties. While not precisely filling an actual want, Dr. Kerley's book forms an excellent addition to those already available. The work appropriately begins with a discussion of infant feeding and of the disorders of nutrition, including marasmus, scurvy, rickets, and "the delicate child." These subjects occupy 140 pages. The second section is on examination and diagnosis in children in general, with the essentials in the care of acute illness. Successive sections are then devoted to diseases of the newborn (premature infants, cephalhematoma, icterus, asphyxia, atelectasis, tetanus, hemorrhagic affections, etc.); diseases of the mouth and esophagus, of the stomach, intestines, and peritoneum, of the rectum and anus, of the spleen and liver; diseases of the respiratory tract; diseases of the heart and the blood; diseases of the glandular system; diseases of the urogenital system; nervous disorders; diseases of the skin; diseases of the ear; the transmissible diseases, and unclassified diseases, such as rheumatism, cyclic vomiting, or diarrhea; rheumatoid arthritis; cretinism, and diabetes. Another chapter is devoted to miscellaneous subjects, such as heredity and environment, obscure elevations of temperature, anesthetics, obesity, the hernias, etc. The next is devoted to vaccination, out-of-door life, instructions for the summer, and the swallowing of foreign bodies. Finally, three sections are devoted to a description of various special therapeutic measures, such as counterirritation, hydrotherapy, stomach washing, and gavage; to the gymnastic therapeutics appropriate in flat chest, kyphosis, scoliosis, empyema, anterior poliomyelitis, etc., and to a table of drugs, with their uses and dosage. Throughout the book the author's experiences in the treatment of the various conditions discussed are recounted, illustrative cases in small type being interspersed. Under chorea the author states that his results have been strikingly good upon treating every case as though the condition present were rheumatism. On page 439 are illustrations of a case of chronic nephritis with anasarca much improved by Edebohls's operation. In the treatment of pneumonia the author particularly recommends the use of strophanthus where the pulse is very rapid; where, on the other hand, the pulse is irregular and intermittent, with reduced volume, strychnine is the remedy advised, and, where the skin circulation is deficient, nitroglycerin. Alcohol is used only when strychnine and strophanthus fail. On the whole, the work may be said to be concise, complete, and well ordered, and it cannot fail to be of value to the practitioner.

THE PATHOGENESIS OF SALVARSAN FATALITIES. By Sanitäts-Rat Dr. Wilhelm Wechselmann, Directing Physician of the Dermatology Department, Rudolph Virchow Hos-

pital, in Berlin. Authorized Translation by Clarence Martin, M.D., First Lieut. M. R. C., U. S. Army; Late Clinical Assistant St. Peter's Hospital for Stone and Other Urinary Diseases, London; Member Association Military Surgeons, Berlin Urological Society, etc. 143 Pages. St. Louis: Fleming-Smith Company, 1913. Cloth, \$1.50.

The German edition of this work was reviewed in the June, 1913, issue of the MONTHLY CYCLOPEDIA, and mention was made at that time of the fact that one of the conclusions drawn by Dr. Wechsellmann from his collective study was that simultaneous salvarsan and intensive mercurial treatment is attended with danger. This is a conclusion which recent experiences do not seem to substantiate, as the two remedies are now frequently "pushed" simultaneously. The author's advice carefully to watch the urine after salvarsan has been given, however, is a recommendation worthy of widespread notice, faulty elimination having undoubtedly been associated with some of the lamentable results reported in isolated cases from the use of salvarsan. While such cases are now growing fewer, Wechsellmann's compilation of the histories of the earlier cases of salvarsan death constitutes a valuable contribution, which is likely to prove of enduring interest.

THE INTERVERTEBRAL FORAMEN. By Harold Swanberg, Member of the American Association for the Advancement of Science. With an Introductory Note by Harris E. Santee, A.M., Ph.D., M.D. 101 Pages, with 16 Plates. Chicago: Chicago Scientific Publishing Co., 1914. Cloth, \$3.00.

This is a monograph upon the anatomy of the intervertebral foramina, the right first dorsal intervertebral foramen of a cat being selected for special, detailed study. From the adjoining vertebræ sixty sagittal sections were cut and subjected to careful investigation, both grossly and microscopically. Having failed in a careful search to find any literature on the intervertebral foramen, the author is doubtless justified in claiming that the work contains the first microphotographs and scientific description of such a foramen that has ever been published. Of special interest is the study of the relations of the first dorsal nerve to the foramen through which it passes. The author's study bears directly on the question whether compression of the spinal nerves at their passage through the foramina is, under abnormal conditions, likely to occur. This is, of course, a question of greater significance to the osteopath than the regular physician. From the author's studies it appears that it is an extremely rare occurrence that there should not be ample space for the spinal nerve to come through without compression by surrounding structures, even where the vertical diameter of the foramen is narrowed by reason of complete atrophy of the intervertebral discs.

The General Field

Conducted by A. G. CRANDALL

Sanitary Drinking Cups for Horses

The Women's S. P. C. A. of Philadelphia proposes to do away with the common drinking bucket for horses at their stands. Each driver must carry an individual bucket to water his horses, or, to be consistent, two buckets for two horses.

This is a great modern improvement and foreshadows important future developments along this line among the domestic animals.

It is certainly not considerate to require two cats to drink milk out of the same dish, and when one dog has a bone carefully stored away no other dog should be allowed to gnaw it.

The kind, benevolent old ladies who have provided by legacy for the erection of drinking fountains for animals showed commendable motives, but evidently a very poor knowledge of sanitary science. These beautifully carved marble and granite bowls to be observed in numerous cities and towns will, of course, have to be removed in order to keep step with the rapid advances of the twentieth century.

* * *

The Dangerous Manicure Girl

At a recent convention of the Medical Society of the State of New York, a prominent physician charged the professional manicurist with being grossly ignorant of bacteriology. He says he knows of over a hundred

cases of felons and various other forms of affection of the hand which he is able to trace directly to the careless use of manicure instruments.

The manicure girl has been variously criticised before. She has been accused of possessing an unusual degree of hypnotic influence, and her tips have long been the envy of other seekers of gratuities.

It will, however, be a little hard for many masculine patrons to accept so sweeping a statement as the one above. Perhaps a State Board Examination will have to be established in order to meet this situation.

* * *

Milk Powder

It is now proposed to solve a great problem by importing milk powder from Europe.

Presumably the milk powder will be guaranteed free from germs.

In order to bring this matter to a strictly scientific basis, there should also be a cream powder, thus enabling the hygienic household to provide itself with milk and cream, according to whatever formula may best suit their tastes or pocketbooks.

It is easy to imagine the clamor of the average child for a scientific combination of distilled water with a proper percentage of milk and cream powder, all positively germ-proof.

After having been suitably nourished in this manner, the baby should be then placed in a sterilized cage, absolutely dustproof, with a system

of sterilized ventilation. Under this benign regimen the child of eugenic parents ought later on to make some stir in the world.

* * *

Perversion of the Useful

Only a short time ago two traveling men were discovered in a strange city suffering from the effects of an overdose of heroin, with one fatality as a consequence. This will, no doubt, add to the clamor against the use of heroin in any form whatever, as a certain number of dope seekers seem to have centralized upon heroin as notably capable of producing the desired kick.

The therapeutic uses of heroin, like cocaine, are undisputed, and it is not likely that the mania possessed by certain individuals of mental instability will materially affect the professional attitude toward this product.

It is a question, however, whether such preparations might not be better dispensed directly by the physician rather than by means of a written prescription, as in that way the name of the medicinal substance could be kept in the background.

* * *

A Sad Waste of Timber

Someone who is fond of figures has computed that about four acres of heavy spruce timber are required to produce one issue of the Sunday newspapers.

An enormous amount of print paper has also been consumed in the past few months in describing the mental anguish of the unemployed. We believe that much of this sympathy is misdirected, and that spruce

timber might be better saved for other purposes.

Anyone familiar with the sparsely settled rural districts where human nature can be estimated at its real, instead of sentimental, value is always impressed with the remarkable improvidence of a certain element; they have no ambition to accumulate anything to provide for some future stringency, and will not work except in cases of dire necessity. But these people, it must be understood, are in many cases merely shiftless, while in the city slums similar types of individuals degenerate into something worse.

All schemes of charity should include a system whereby the recipients should earn what they receive. This should especially apply to the bread line. Of course, physical debility provides the exception.

* * *

Automobiles and Extravagance

Some pessimistic student of statistics draws mournful conclusions from an estimate that there are a million automobiles in the United States, and that the year 1914 will see 400,000 more added to the number. He concludes that this is an era of extravagance, and that we are in a very bad way.

General figures are usually misleading. It is more than likely that the above estimates are excessive, and that a large percentage of the owners are simply diverting to automobiles what they would spend for other pleasures perhaps less wholesome.

Then there is another item to be considered in this connection. The married couples of the United States

can be roughly divided into two classes,—those who have children and those who have automobiles. When the childless couple gets to thinking the matter over and decides to buy an automobile, it provides some consolation for the lack of other advantages, and enables them to dispose of some of their financial surplus which in the due course of events would otherwise be inherited by scheming relatives. * * *

The Rigid Hygiene of the Canal Zone

One of the contributing causes for the remarkable healthfulness of the Canal Zone is reported to be the ordinance which makes it a misdemeanor for any householder to have mosquito larvæ on his premises. There would certainly be some protest if such an ordinance were to be instituted in the States.

It is one of the glorious rights of the American freeholder to maintain as many nuisances on his property as he chooses. Mosquitoes, far from being regarded as preventable pests, are usually looked upon as a seasonable disturbance which must be endured with as much patience as possible. The fly is swatted and food products screened from insects largely as the spirit moves.

The marvelous benefit resulting from a régime of strict hygiene at the Canal Zone should be a greater object to Americans than the Canal itself. * * *

A Fortunate Clergyman

A clergyman having encountered some hostility on the part of his congregation was sympathetically advised to proceed cautiously lest, together with his wife and young

children, he incur financial hardships through the loss of his salary. The clergyman assured his friend that he was entirely optimistic so far as the financial outlook was concerned, as in early life he had fortunately learned the carpenter's trade.

Only a slight knowledge of the financial benefits conferred upon the average clergyman is necessary to show what an advantage it must be for a clergyman to know a good trade.

The richest country on the globe pays starvation salaries to its clergymen and teachers. In the good times coming when the present era of rawness has been succeeded by a period of more reflection, these conditions will undoubtedly be remedied; but at present the wages paid to these faithful public servants who have so much to do with shaping our future destinies are little short of a disgrace.

* * *

The Great Specific

A contributor to the United States Naval Medical Bulletin presents a picture of life in certain regions of Brazil which is not likely to produce a desire to migrate to that country. He tells of a Spanish laborer who was attacked with cerebral malaria resulting in convulsions followed by collapse, from which he was thought to be dying. The writer states that as a result of heroic doses of quinine administered intramuscularly, and aggregating 135 grains in twenty-four hours, the patient recovered.

It is said that most of the hardy pioneers who settled in the central sections of the United States were accustomed to cease from their labors each alternate day because of the

regular chill and succeeding fever. Some of them developed a great fondness for quinine, but evidently they never employed this remedy according to modern methods, as they could not have had the means to purchase it on the wholesale plan which a modern system of therapeutics would suggest.

The specific action of quinine is one foundation stone which has not as yet been undermined by dissenters of any medical creed.

* * *

Skepticism Blocks the Way

If certain enthusiasts could have their way, vegetarianism would be the only logical solution of the dietary problem for a large number of people.

A warm advocate of extreme measures in New York State urges the application of the tuberculin test to all cattle at the earliest possible date.

The prospects of carrying out this program are extremely remote.

The numerous scandals which have been associated with the testing of cattle in various localities have prejudiced all classes of people against this highly scientific, but thus far impractical, prophylactic measure.

It is impossible for the average layman to understand why State officials should condemn the \$200 registered cow, allowing the owner \$35, and then pass the animal along alive to some State herd; or if slaughtered, permit the meat to be disposed of by the State at a price considerably in excess of the amount allowed the farmer.

The supply of beef animals is steadily decreasing irrespective of sanitary regulations, and with the decline in hog raising, due to cholera, there is a probability of a large increase in the imports

of cold-storage meats from countries where the sanitary regulations are certainly not likely to be any more stringent than in the United States.

What is needed is a very general line of education that will make clear to the average farmer, dealer, and legislator, whatever real dangers may actually exist from the transmission of tuberculosis from apparently healthy cattle. At present they are very skeptical.

* * *

The Slandered Liver

Taking their cue from the English novelist of an earlier generation, accustomed to picture the retired English officer of long service in India as the irascible possessor of a damaged liver, it became the fashion to attribute nearly all the depravity of human nature to the patient and long-suffering liver.

Time, which brings revenge as well as justification, has refuted this slander, and the human liver is now regarded as possessing most of the Christian attributes of patience and charity.

It is probably true, however, that the liver has a pretty strenuous time, and it is for this reason that the advocates of the starvation cure have one fairly good argument on their side. By their system the liver is enabled to take a vacation, which, in a great majority of instances, is a great relief.

The science of nutrition is as yet a tremendous mystery to a great number of people who know quite a good deal about many other subjects, but who in matters of diet are blind leaders of other blind people, to whom they are always ready to impart a great deal of advice, most of which is of very bad quality.

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Staphylo-Serobacterin Mixed
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Strepto-Serobacterin-Scarlatinal

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It is stated that there are THE 10,000 blind persons in this MIDWIFE country today whose sight could PROBLEM. have been saved had they been provided with proper precautionary treatment at birth. It is further stated that 50 per cent. of the cases of blindness were preventable.

This is a sad reflection upon the intelligence of our people.

The great problem in connection with this condition of affairs is the midwife.

A poor family can have the services of a midwife not only when a child is born, but also during the period of convalescence of the mother at a cost insignificant by comparison with the legitimate fees which must be necessarily charged by a physician who has to maintain an extensive office and equipment.

Therefore, it is not surprising that many families, especially those of foreign extraction, should follow the customs of the mother country and employ a midwife at a nominal fee instead of securing the professional services of an American physician.

However unfortunate the results of this custom may be in numerous instances, it is deep-rooted and the situation calls for regulation rather than eradication.

The Committee for the Prevention of Blindness of the State of New York has recently issued a booklet dealing with the midwife in England. This booklet goes to show that the employment of the midwife in Great Britain has now become a reasonably safe practice. The midwife is required to pass an examination and show fitness for the exercise of this art and must also be in a position to call some responsible physician to her assistance should the occasion require.

Where such regulation does not exist it is natural that an ignorant midwife should attempt to cover her mistakes so far as possible by consultation with some physician who will be lax enough and indifferent enough to throw the mantle of charity and a plausible explanation over some act which may produce lifelong misfortune.

The midwife, therefore, should not be driven out of her calling by acts of aggression. She should be encouraged to acquire a fitness to act under normal conditions and the ability to recognize that which is abnormal and immediately place the responsibility upon some

(CONTINUED ON ADVERTISING PAGE 33.)

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2. Suitable cases for corpus luteum organotherapy must be carefully selected.

3. The indications for the administration of a lutean extract are distinct and its use should be limited to these conditions.

4. The administration of corpus luteum is followed by certain definite phenomena.

5. It is of the utmost importance to use an extract obtained from the ovaries of pregnant animals only.

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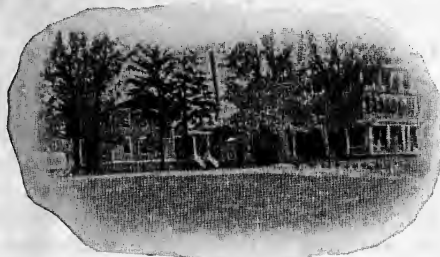
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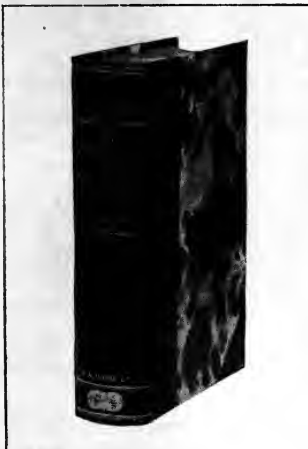
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